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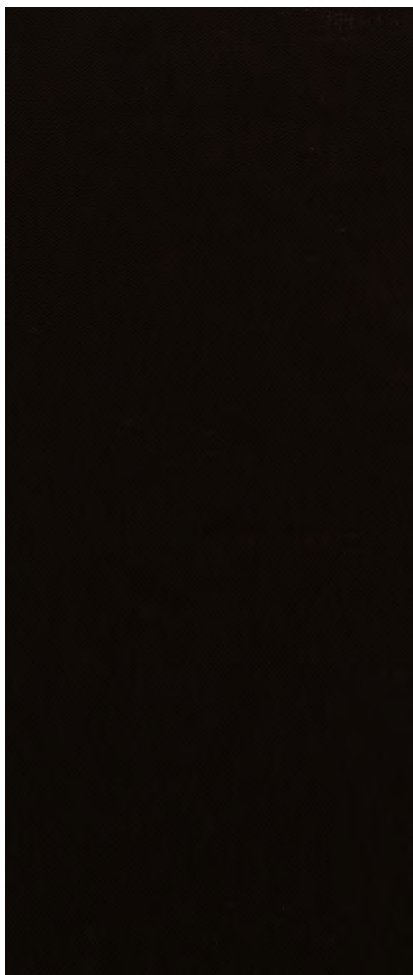
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THE
LECTURES

READ BEFORE THE

American Institute of Instruction,

AT

FABYAN'S, WHITE MOUNTAINS,

JULY 8-11, 1879.

WITH THE

JOURNAL OF PROCEEDINGS.

PUBLISHED BY ORDER OF THE BOARD OF DIRECTORS.

BOSTON, MASS.:
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1879.

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PROCEEDINGS

OF THE

AMERICAN INSTITUTE OF INSTRUCTION,
FIFTIETH ANNUAL SESSION.

AMERICAN INSTITUTE OF INSTRUCTION.

FIFTIETH ANNUAL MEETING, 1879.

JOURNAL OF PROCEEDINGS.

FIRST DAY. — TUESDAY, JULY 8.

THE fiftieth annual meeting of the American Institute of Instruction was held in the commodious pavilion erected for it near the Fabyan House, White Mountains, N. H.

At 10 A. M. the president, I. N. Carleton, of Connecticut, called the meeting to order, and introduced Mrs. Julia Houston West, who sang "The heavens proclaim Him."

Pres. Hulbert of Middlebury College read from the Scriptures and offered prayer, after which Mrs. West sang "The Lost Chord."

* In accordance with a vote of the Institute, Pres. Carleton appointed the customary committees as follows:—

On Nominations. — T. W. Bicknell, Mass.; R. Woodbury, Me.; F. F. Barrows, Conn.; C. W. Bardeen, N. Y.; E. R. Ruggles, N. H.; A. W. Edson, Vt.; J. M. Hall, R. I.

On Resolutions. — A. P. Stone, Mass.; E. S. Morris, Me.; H. P. Warren, N. H.; H. M. Harrington, Conn.; S. H. Brackett, Vt.; W. A. Mowry, R. I.; H. Blake, Neb.

On Necrology — C. Northend, Conn. ; S. W. Mason, Mass. ; S. S. Greene, R. I. ; H. Orcutt, N. H. ; E. Conant, Vt. ; C. C. Rounds, Me.

On Journal of Education. — T. D. Adams, R. I. ; J. S. Barrell, Mass. ; W. O. Fletcher, Me. ; A. Morse, Conn. ; S. A. Bent, N. H. ; J. S. Cilley, Vt.

On Teachers and Places. — G. T. Fletcher, Me. ; E. Stickney, Mass. ; A. P. Somes, Conn. ; J. D. Bartley, Vt. ; A. M. Gamwell, R. I. ; J. L. Stanley, N. H.

On Honorary Members. — D. N. Camp, Conn. ; J. F. Blackinton, Mass. ; M. Lyon, R. I.

OLD AND NEW METHODS IN TEACHING.

Judah Dana, principal of the State Normal School, Castleton, Vt., opened the discussion on this topic. He said : —

Mr. President and Fellow-Teachers, — When the president of this association invited me to come here to address you, the members of the American Institute, coming from all parts of the country, and occupying the highest places in educational matters, it seemed folly for me, one of the smallest specimens of a very small State, to come before you. Yet when I considered that there had gone out from Vermont many who are doing the work of instruction in the best way, either personally, or assisting those who are, I thought that I might, at least, have the sympathy of these, and concluded that I would appear before you. When I considered, too, and heard the general condemnation of all that was old in teaching, and the commendation of all that was new, I was obliged to lay them side by side, and draw a little comparison and some conclusions, and I thought I would come here and talk, not alone about the methods of teaching in the school-room, but in that broader sense in which every person living is a teacher, whether he will or no. When I thought of those rude huts in which our fathers and mothers were reared, and of their children taught, first of all, obedience, reverence to God and respect for their parents and elders, children taught to help themselves, and who grew up with

the three essential qualifications of perfect manhood and womanhood, the mental, the moral, and the physical, children who were taught their own responsibility to God for their behavior, and who had held out to them inducements for mental culture and self-reliance, and grew up with brawny arms and muscles, going forth to meet and overcome any difficulty in any calling, I could but compare them with the children of the present day, living in palatial mansions that occupy the places of those old huts; children taught deception from the very first, and growing up helpless; helped in all they do, and, as a consequence, growing up weak and feeble, — feeble, too, in morals, the result of which is want of confidence or betrayal of confidence. When I compared these with the children of the earlier days, I was led to ask, Which mode is the better? Which answers the better life's great end?

In those old school-houses sat a *master*,

“A man severe he was and stern to view,
I knew him well and every truant knew,”

by whom the children were taught to help themselves in their studies; they were pointed to the hill of science, a steep and rugged hill, on whose summit stood the Temple of Fame, with the fair goddess beckoning them onward. They were taught that to reach it they must climb, and were even spurred on with birch and rod. But they gained strength and power with every step. Now when I look at the hill of science, beautifully graded and terraced, where children are lifted from one terrace to another without any effort on their part, when I see them leaving their schools without strength or power to resist temptation, I have been led to ask, Which is the better way? Which is making the stronger men and the better women? Which makes the nobler character? I leave it for you to decide. Do you ask me if I would go back to those rude old times and discard what we now have? No, by no means. Yet if I were compelled to choose between the two as they now exist in many places, I should say, Give me the old. But I would combine them. I would have teachers careful to make children work for themselves. I believe,

after years of teaching, that nothing I have ever done for a pupil has been of any advantage to him. The real benefit has been that which I have done to encourage pupils to labor for themselves. When I have been enabled to make young people feel that by the sweat of the brow they are to work their way; that labor is not a curse; and that a kind Father cannot curse his children, but that in imposing labor upon them he bestowed the greatest blessing in his power, — when I can induce them to see things in that light, I feel that I have accomplished a good work. I have encouraged them to struggle for themselves. I would urge parents and teachers to teach children to work for themselves. Teach them to work and see that they do work; and I don't know but I would add, follow them up in the old style with the birch if they will not work without. *Drive* them, if necessary, up the hill of science; but do not *lift* them up.

Mr. A. Morse, of Hartford, Conn., said: —

I had my birth in one of those log-cabins in Vermont, and feel that I am called upon to say a word upon the old methods of teaching, perhaps it would be as correct to say the no method, for in fact, there was not any system of teaching in the common schools in the north part of Vermont, as far back as 1811. I was familiar with the schools, both as pupil and teacher. I have since become acquainted with the new method, or with a system of common-school education. I commenced teaching in Vermont in 1823. I have been in the school-room most of the time since. When I left the academy and had been examined, and had received my certificate saying I was qualified to teach, I thought I knew about all that was necessary for a teacher to know. Soon after I entered the school-room as teacher, I began to feel my deficiency. My knowledge was not available. I had learned nothing as I should have learned it to become a teacher. I found I had no power of awakening thought, controlling and directing mind, of creating a spirit of inquiry and forming habits of investigation.

The old method in which I had been taught gave me no power in these directions. At the close of my first school I

said, "I will now try and qualify myself for a common-school teacher." I commenced studying, reading, and inquiring, and have been employed as teacher for more than fifty years. I knew something of the old methods, I think I understand something of the new system, the modern system of teaching, and while it has great advantages over the old, in my judgment, even the new is susceptible of vast improvement. There are some things in the old method that may well be incorporated into the new. The vigorous health enjoyed under the old system is to be coveted for the new. The firm grasp with which the mind took hold of the thought upon the few subjects, gave to the scholar more mental strength and greater power of investigation than does the smattering knowledge upon the too great variety of subjects introduced into our schools under the new system. Then, again, it is a serious question in my mind whether the discipline under the new system, so far as it has been radically changed, is any improvement upon the old. Children and young men, under the old system, were taught to recognize authority, to respect it, and to obey it. In extreme cases, the rod was used to enforce compliance to all reasonable requirements. Corporal punishment was not regarded as degrading, nor was the teacher who inflicted it denounced as cruel and brutal, but, on the other hand, was sustained in the course by both parent and public sentiment. There were no reform schools in those days. The family government and the school-room discipline were the reformatory agencies. The young men in the academies and higher schools were certainly as easily managed then as now. The college riots and disturbances were far less frequent then than at present. I believe the rod, judiciously used, has been the salvation of many boys. I apprehend that serious injury has been done our schools by the influence of those men, who, in their writings upon this subject, have denounced corporal punishment in school discipline as a relic of barbarism, and declared that no teacher can be regarded as having arrived at the head of his profession who uses it, and further, that no one can hold a high position as teacher who, upon any occasion, resorts to the use of the rod. I

think such doctrine false and injurious. I believe many of our most eminent teachers hold the opposite doctrine; and, further, I believe teachers may become pre-eminent in their calling and rise to the head of their profession, even in the practice of this same discipline, which is so bitterly denounced by some of our modern would-be reformers.

Mr. A. P. Stone, of Massachusetts, said:—

I like the old method and I like the new. The question is not that of choosing between the two. The question is, Are there not many good things in both methods that we should hold on to? It is not necessary to spend much time on this question of the rod. It was anciently used by teachers, and by fathers and mothers too, as many here can probably testify. We shall be forgotten long before the rod ceases to be used in the school-room. I am not an advocate of much whipping. I believe the rod as a reserve force is a powerful agency. My friend here (Mr. Tweed) says he remembers years ago the rod used to make boys smart. He remembers the old arithmetics said it took many rods to make an acre; but he feels sure that *one* rod in school often made an *acher*! But I don't propose to take up much time here. It seems to me we are making progress. It seems to me that the rod is used more judiciously than it used to be. Perhaps I am prejudiced, for the rod was used on me. I believe school discipline and management is more reasonable than formerly; therefore if there are any objectionable features in the old method, they should be cast aside.

Again, in our methods of school management we are making progress. I remember, as Mr. Morse said (and like him I taught my first school in Vermont), that in those early days I thought I knew a good deal. I am pretty sure now that I didn't know much. I think the present methods more reasonable. It was in my schoolboy days in Vermont that in doing a sum, I went up and asked the teacher what was meant by carrying for ten? "Why," said he, looking down at the book, "don't you see that the book says that ten in an inferior column is equal to one in a superior column?" and he thrust

the book back in my face. There was not much philosophy or explanation in that. We ciphered by rote, and were expected to recite by rule. But Fridays, when we were expected to recite, we took to go skating and sliding. Now, is there not more philosophy in the present method of explaining and teaching than in the old time? We are making progress in studying the human mind. We are eliminating, throwing out chaff. Then, too, we are making progress in books; they are better than they used to be. Our book-makers are coming to feel that books are for training children. They were formerly monstrosities. I am a firm believer that we have inherited much from the old that is good. I also believe that there is much in the new that is practicable, progressive, and right.

NEGLECTED AND DESTITUTE CHILDREN.

Hon. Henry Barnard, of Connecticut, delivered an address on this subject. (See Lectures.)

DISCUSSION.

John Hancock, of Dayton, O., said: —

I wish to express my sympathy with the views of the distinguished gentleman, Dr. Barnard. There is one point to which I should like to give special emphasis, and that is the gathering of these destitute and neglected children into schools which shall have no stigma of the criminal attached to them. We have a reform school at Lancaster, O., where the family system has been in operation for many years, but all the children go as criminals. They are either criminals in fact or incipiently, in the fact that they are unmanageable by their parents. In the city of Cincinnati we have a House of Refuge, where little boys or girls are sent as early as five years, without parents to look after them, and more helpless than orphans. They go into that institution without ever having committed a crime, — as little children cannot be supposed capable of crime, — yet they come out with the stigma of criminal attached to them. Youth come out of the school

at Lancaster, and live in an upright, moral way. So, notwithstanding the disadvantages of our House of Refuge, I am told that the children sent out from that institution, in a large majority of cases, make worthy men and women. Still I think the advantages would be largely increased if these children never had had that stigma placed upon them. I agree with Dr. Barnard that under no circumstances should this stigma be attached to any child. I think, also, that the idea of Kindergartens for the class of children he indicates is well worth our attention. In order to draw children into them, these schools should be founded in every neighborhood in which the destitute live. Teachers should have not only the missionary spirit, but the skill for technical education. Success must depend upon the men and women who do the teaching. They should be the best. We may talk about systems of instruction, and methods of instruction, but after all we always return to the central point, — the teacher. But especially in this class of schools should the teacher stand pre-eminent. Without such teachers, our efforts will be fruitless. The question how to get hold of this class of children, and how to draw them away from their vicious associations, is one of difficulty. They should be taken early: therefore the Kindergarten is important. Let us work to bring down that blessing of the rich to the poor and the outcast. Let us attempt, as the doctor has so eloquently said, to make good citizens of those who have none to care for them.

Rev. Mr. Ames, of Rhode Island, said : —

I have been connected with institutions of a criminal character for many years past, and I want to express my opinion that no field presents greater results to cheer the heart than this very department of labor. Certainly, so far as my own observation has extended in one particular State institution for girls, the results have been satisfactory. After more than a decade of years, I made thorough observations, and learned that nearly seventy-five per cent of those children who had been adjudged, in a certain sense, criminal, had been reformed.

Instead of being a burden upon society, they became workers and helpers in it. The State should regard these children as her wards. It will not do to leave them in their homes, to leave them under unfavorable influences. Mr. Harris, of the New York State Prison Association, states to the Legislature, that where children had been taken away from their parents at the Five Points and elsewhere, and carried to the House of Refuge, to the Catholic Protectory, to the homes of the West, and to industrial institutions, nearly ninety-five per cent of children so taken had been rescued. And other friends to the workings of the system assert this to be true. I inquire, then, what field of labor will repay more than this? Private benevolence should be stimulated in this direction. The State should take the lead, but men and women of wealth and philanthropy would here find a large field opening, in which they would be greatly interested. There should be in these schools a rigid classification with regard to character. I think if harm has come in these institutions, it has been in taking those too advanced in age. They should be placed in separate institutions. No stigma should attach to those not familiar with vice or crime in early associations. Rhode Island is interested in providing with family homes these children gathered in her State almshouses. All those children of misfortune should be isolated from the associations of the State almshouse, and should have the benefits of the family home, and its mental, moral, and religious training. I only wish to emphasize, from my own experience in the training of these girls, the views that have been expressed here. During my whole period of service in one of these institutions we had more applications for the services of such girls than we could supply. Teach them to cook, do laundry and other domestic work, and you will find families on every hand ready to take them. Many of them to-day are excellent wives and mothers in the West and on the Pacific coast. You will find that two thirds will come out from these State schools and become absorbed in society and make worthy citizens.

Prof. Thacher, of Yale College, said: —

I did not come here with the idea of opening my lips. I observed no other sentiment so emphatically applauded as that in which Dr. Barnard laid the responsibility of this great work upon us. I should like to emphasize that recommendation. It is certainly a great labor. In some particulars it cannot be laid on us as a body of teachers. We cannot engage in industrial schools which gather children in separate homes as wards of the community. These institutions for reform are undoubtedly of the greatest importance, but they take those children at an advanced stage of their bad development. These must be taken care of, for they have evinced a disposition to be the plagues of society, having grown up out of a multitude who want even the elements of an education. Now, for setting children into the right way, our common-school system is most efficient. And for that, what an organization we have, — in every State an army of officers appointed for every town and every subdivision of a town. There is no community so insignificant that it has not an officer whose duty it is to see that all these classes in his parish are brought under observation. Now, if these officers that I have referred to, and the teachers, would elevate themselves to the thought that they are not merely paid workers; if they could look beyond their salary, and be spurred on to their work by that higher motive, the love of doing good to their fellow-creatures and to these poor children, we should have but little need of reform schools and asylums, necessary as they now are. If this work could be done by the common-school teachers in all the ramifications of the system, the evil would be forestalled. Now, how can we do it? In my visits to different parts of Connecticut, as a member of the Board of Education, I have suggested this: That every teacher should feel bound to do just what Dr. Barnard has said, — look out for the children of school age in that district, find out whether they are attendants of any school. In rural districts this work would be pretty easy. The teacher should make it a point to find out whether there are children in the district who do not go to school. How

can she find out? One of the most efficient methods of finding out is to ask the scholars, not in an officious way to attract attention, but in a quiet way ask them if they know of any children who do not go to school. If that simple method of inquiry, multiplied by the great army of teachers, could be carried out, the thing would be done. We should soon have all these children brought under influence.

Well, having furnished good schools, the work of education does not stop there. The child that is brought into such a school not only gains for his own use the knowledge the school gives, but he goes back into the family and lives there as an educator; and thus finally is the community brought up into the right condition. There are in every community persons who are not moved by generous impulses. They will take out of an orphan asylum a little girl or boy, and keep it at work, without caring for the child's education. You will find both men and women keeping children at work to the neglect of their education. This evil will be diminished if the sentiments here advocated are carried out. They will have the effect to make them ashamed,—those who for greed have neglected a child's early training. In Connecticut, we have laws regulating the employment of children in factories: between certain ages they must be sent to school. We have agents to see that this law is carried out. The law also goes further. It forbids anybody keeping any child from school training during certain parts of the year. It also provides that no parent shall neglect the education of his child. Our agent on this matter is most efficient. He brings out under penalty of the law those guilty of neglect. These cases have rarely been carried to the courts, but this method reaches all who are brought under the notice of the agent. This great evil has partly grown upon us from the change of our public condition. When the population of our States was homogeneous, every one had a comprehension of all the families in his community, so that no child was allowed to grow up uneducated. But with the great variation and mixture of races, and with that natural tendency of children to avoid education, this evil has increased upon us. A child will cry for food, but it never cries for an education. It is

only too glad to get rid of it. So we have, in addition to other difficulties, the nature of the child to work against us.

At the close of the discussion Prof. Hibbard read Longfellow's poem, "King Robert of Sicily," and after it a humorous piece called "Anger and Enumeration."

EVENING SESSION.

After the singing of Faure's "Sancta Maria," by Mrs. West, the president read the following

LETTER FROM GOV. HEAD.

STATE OF NEW HAMPSHIRE, EXECUTIVE DEPARTMENT,
CONCORD, July 7, 1879.

HON. I. N. CARLETON, *Pres. Am. Inst. of Instruction.*

My dear Sir, — I regret that affairs of state of the greatest responsibility will prevent me from being present at the Fabyan House to-morrow (Tuesday), as I had intended, to welcome the members of your association from all sections of our country to the old Granite State, and to exchange the friendly greetings of the occasion.

I assure you I am deeply interested in the welfare of our public educators. Their mission is a grand and noble one, and to them we owe very much in the great work of moulding aright the character of the young all over our land. We appreciate the high compliment paid to our State by your return this year to hold your fiftieth annual meeting.

Please convey to the members of the association my deep regrets that I am unable to be present and in person extend to them a warm and hearty welcome to our State.

In conclusion allow me to congratulate you upon the prosperity of your organization in the past, and hoping that you may have the highest success in the future,

I remain very truly yours,

NATT HEAD.

PIECE-WORK.

Supt. John Hancock, of Dayton, Ohio, read a paper on this topic. (See Lectures.) After listening to readings by Prof. Hibbard, the Institute adjourned to meet at nine o'clock the following morning.

SECOND DAY. — WEDNESDAY, JULY 9.

The session was opened at 9 A. M., with devotional exercises conducted by Rev. W. W. Hayward, of Keene, N. H. Mrs. West sang Gounod's "There is a green hill far away." The treasurer read his report, showing a balance on hand of \$136.

SOME OF THE PRESENT ASPECTS OF CLASSICAL TEACHING
AND STUDY.

Prof. J. L. Lincoln, of Brown University, then read a paper on this subject. (See Lectures.)

DISCUSSION.

Prof. Thacher, of Yale College, said: —

I think the friends of classical learning might rest their case with this good plea, and I consider it almost superfluous to add a word. I agree with the position taken by our friend. The chief ground of assault upon classical learning, and the extent to which it is cultivated in our schools, has been referred to. It is that the study of Greek and Latin is useless. I think it has been shown by what has been said that it is far from being useless. It is the peculiarly good fortune of these studies that they unite two results, either one of which would be sufficient reason for their prosecution, even to the extent to which they are pursued in our schools and colleges. In the first place, the knowledge that is acquired by classical studies will repay us for all the time devoted to

them, even if we gained no discipline of mind. On the other hand, the training of the mind, the cultivation of the taste, the admission to a knowledge of one's self brought by these studies, is also enough to repay us for all the time devoted to them. Now let those who consider us as teaching that which pupils forget, remember that the pupil will get that which he cannot lose. No young man can study the classics without making intellectual progress. As for myself, in looking over the various branches pursued in the schools, I find there is no substitute for these studies to give mental discipline, refinement, and strength. Now they tell us, on the other hand, that the great advantage of scientific and natural studies is to be found in the fact that we acquire a knowledge which is useful; but if we reflect on the fact that but little of the knowledge we acquire in education is actually carried with us in a living form through life, we shall see the weak point of the argument. No one would advocate omitting mathematics, algebra, or geometry in our schools. But suppose we could go to the graduates of our colleges after five years, or to any body of scholars you choose who are not engaged in teaching mathematics, and set them down to a proposition in Euclid, how many, do you think, could reproduce the beautiful arguments of Euclid? I think there are but few who, not having touched their mathematical studies for five years, could reproduce them. Yet how many would deny the benefit — even the grand utility — of mathematical and geometrical studies? But it is not because we carry the utility of those studies into our daily life that they are useful. All children must go through a whole course of arithmetic, yet there is but a small part of it carried into life. The difficult rules and processes in that fundamental, utility study called "arithmetic" are forgotten as we go on in life. We have to take our books down to see what they are. You might carry this idea through all the "bread-and-butter studies," as they are called across the water. All the studies we acquire in youth require constant attention; they must be revised year by year. So it is with languages that are not in constant use. Now I say that the knowledge we acquire fully repays for the time we spend upon it, and

the discipline that we acquire is discipline that cannot be acquired in any other way. Therefore the study of those branches of knowledge is essential to that strength and versatility in our scholars and citizens, which the republic needs for the exigencies of daily life. As for the new methods in education in classical studies, I agree with the speaker; there is great danger that these new methods may interfere with what I consider the chief benefit of the studies, — the cultivation of the human soul. There is danger of making the study of Greek and Latin a matter of dexterity, instead of thinking or careful reflection. I have no doubt persons can be trained by the Ollendorff method in Greek and Latin, so as to secure a facility in the use of phrases that will impress hearers with their advancement in the languages. But we may gain that end at too great an expense, — the loss of that reflection which is secured by the ordinary methods, that use of the mind in judgment. There is no substitute for that which I can conceive of. It is not so important that a boy should learn to write as that he should try to rightly exercise his judgment. If he answers wrong, he may be told, and may see his error; but it is necessary that his judgment should be cultivated by this repeated practice for years, till finally it transforms the boy into a man.

Prof. Louis Soldan, of St. Louis, said : —

In responding to your call, Mr. President, I feel the hesitation which one naturally feels addressing an audience to whom he is an entire stranger; and in addition to this, I have that diffidence which one feels whose native tongue is not English. I felt this morning as if I had been well paid for travelling 1,200 miles to attend the meetings of this convention when I listened to the sentiments expressed by the distinguished gentleman who has addressed us. When I hear the claim that Latin and Greek have no place, or at least ought to have no place, in modern education, I feel that all we ought to say in answer to this is that there are some people who speak without knowledge, who speak without thinking. Because if there is anything true beyond doubt, it is

that our present civilization, that of the nineteenth century, the civilization, if you please, following the Reformation, is based entirely on the study of Latin and Greek. Our present era dates back to the Reformation, to the revival of learning. Now it must not be forgotten that the first beginning of that grand movement in which we are at present was with the revival of classical studies. The moment the learning of Europe turned back to the Greek and Roman sources, the moment the lost writings of Aristotle came back to the western world through European scholars, the new era began. The scholars of Europe began the study, not only of Greek and Roman classics, but also of the Scriptures in the original, and that led to the Reformation. We may say that without Latin and Greek all this famous learning of our age, all this natural science and all the great achievements of the last centuries, would not have been. When modern science denounces the study of Latin and Greek, it denounces the wellspring from which it arose and gained its strength.

I think another point ought to be considered: In what respect does the present natural science differ from that of the last century? Scholarship had advanced as far in many departments of science during the last century as it has in this. As far as zoölogy and botany are concerned, we must never forget that the leading principles of classification were discovered during the last century, not this century. Now in what do we find the difference between the science of the last and the science of this century? It is in the application of a new principle, — that of historical development; that which traces back all forms of the present day to the forms of the past. And any present form that is worth study can be understood only by tracing it back to its original state. Now, is man and human society less worthy of study and investigation than the animal world? Are the splendid institutions of the human mind, of society, and of state inferior to natural systems of zoölogical classification? If not, then we must apply the historical methods to these studies also. And the only true historic method is to trace them back to the past, to their Latin and Greek sources, because from those nations we derive our highest thoughts and aspirations.

Latin and Greek are the common property of the whole human race, and you get no substitute in the modern tongues. As far as these new methods of studying languages are concerned, I fully agree with what has been said: The only road to knowledge is hard, earnest work and application; and any method which claims that a scholarly knowledge of any branch of learning can be acquired without hard work is based on a mistake at the very beginning. If there were a royal road to learning I think it would be doubtful whether we ought to take it in our schools, because I believe a moral lesson is to be taught there, and it is, that the only way to achieve success is in earnest effort and hard work; and the pupil must know that nothing can be achieved unless he is willing to work for it.

THE HIGH-SCHOOL QUESTION.

B. G. Northrop, Secretary of State Board of Education of Connecticut, read a paper on this subject. (See Lectures.)

DISCUSSION.

Mr. T. D. Adams, of Westerly, R. I., said:—

I am glad to have heard this excellent address. There is, perhaps, no question before the people which is further from being settled than this; and it cannot be settled, I suppose, unless we go down to the fundamental idea of American education as connected with government. The opponents of the high school are men of character and influence, too often men of intelligence, culture, and wealth; and what is worse than all, without any children to educate. I have found that they can maintain very ingenious arguments if we admit their premises; while on the other hand, if we deny them and force them to accept ours, we win an easy victory. I think it easy to prove that the high school is as much a part of our public system of education as is the "old red school-house on the hill." I think, too, it can be proved that with our growing population the high school is to be an absolute necessity,—I say it strongly,—an absolute necessity for the support of

free republican institutions. I believe this to be the opinion of the best thinkers and philosophers of the country. This necessity may be proved from the order of growth in the young mind. We all know that the child up to the age of twelve may acquire education enough to become a millionaire, and yet not comprehend the principles of government. Suppose when the child is all eyes and ears, when only the perceptive faculties are developed, suppose his education stops right there, what kind of a man shall we expect for a citizen? Why, a certain keenness of intellect, without doubt, a sly shrewdness of character; and as circumstances permit, a demagogue in the slums of political life.

Now let us take the period from the age of twelve and fourteen to twenty, when the real man begins to grow. Suppose the State does its real duty by the boy, what kind of a man shall we have? Doubtless a trained intellect, an established character, and a patriot. I am aware that great mischief has been done to the cause of public education recently by a certain shrewd politician, who, at the present time, is governor of a neighboring State, in his denial of the constitutional right of the people to tax themselves for public schools. But, my friends, I ask you one question: Can any one who has seen much of the social and political life in New York fail to understand precisely what he means? He knows full well to-day that his tenure of office comes through the votes of certain wards in New York City, which have been aptly termed the "Botany Bay of America." But "educate the people," shouts the crafty governor, "and at public expense too." But in undertone he adds, "But educate them up to only this point, where they may become pliant tools in the hands of the demagogue." He admits that we may tax the people up to that point. But I ask, if the State has the right to educate at public cost up to the point where they may become political rogues, wherefore does the right stop short of that point where, by intellectual and moral training, they may become independent, thoughtful citizens? That is a question I have never heard one of them answer, not the best of them. Quite in contrast with that are the conduct and services of another statesman of the same political

party, and who has adorned the same chair of State, but who to-day, hoary with age and wisdom, prefers to leave a rich legacy for the education of the people. I refer to Ex-Gov. Horatio Seymour.

Now, what is this question of taxation? Simply that the State has a right to every dollar of our money. It is the supreme right of safety which inheres in the State; a fundamental principle of constitutional law. It is as old as the race. We see it in the monuments of old; in the pyramids; in the triumphal arches of kings. Cruel indeed was the exercise of that power in the hands of the despot; but we live in better times, when the contribution of every one is the safety of all. I say then to any tax-payer in New Hampshire or in New England, one of the greatest of blessings is the tax that comes out of your pockets and goes into the education of the people. Now, you may have \$100,000 and no children to educate, — a pitiable case, to be sure. You complain of the tax levied to educate your neighbors' children. Many would like to change places with you and pay all your taxes. But where did you get that \$100,000? Is it yours? Do you carry it with you? Is it not well to use it wisely? Where did you get it? Did you inherit it? Certainly the State ought to have something so long as it protects you. All honor to your enterprise, but while making that property, you have utilized the force and labor of the poor all around you; and socialism to-day demands that you divide that \$100,000 among the people who have earned it. But no, say the honest and thoughtful people of the country, we ask you no such thing. We ask only your pittance for the public good, that the poor boys may become good citizens.

My friend referred to the matter of leadership. I see in a certain school-room to-day an Irish boy of fourteen who leads his class. He is the best Latin scholar of twenty. His father swings the hammer in the quarry half a mile away, working manfully so that that boy may be an honor to the town. That boy is a born leader. Let him get the education he needs; he will control a thousand Irishmen by and by better than all the Yankee politicians in the State of Rhode Island. That boy will be a leader somewhere. Deny

him education, and he may possibly lead a force up to your doors which will make your faces blanch. Be assured that the best standing army is the public school, and the best police force is the public school.

Mr. C. C. Rounds, of Farmington, Me., said : —

Mr President, — For several years we had a statute in Maine to encourage agricultural education. You all know that Maine is mainly an agricultural State. The cities can take care of themselves in high-school education. The law I have spoken of has done great good in our State. It had a provision that any town spending a certain amount of money in high-school education, up to \$500, should receive an equal sum from the State treasury. Up to last year there were over two hundred free high schools in the State. Our Legislature, not daring to vote for the repeal of the law, voted to suspend it for one year. The next Legislature will have to pass upon it again. In many of the towns, during the few years it had been in operation, the high schools had reached a point where they would soon have been able to take care of themselves. Now we see the workings of that repeal. I can learn of few in which there has been any successful attempt to maintain a high school under that law. They cannot in these times get the foothold necessary to raise the sum of money requisite to maintain a high school. They cannot raise the money requisite to give them such schools as they had before. There are in that State opponents of the high school. You have on the one hand those trained under the leadership of President Eliot, of Harvard; on the other, those trained under the leadership of the corner grocery; and they have succeeded in turning back the tide. We are making experiments there. The worst of it is, we find confirmation of John Stuart Mill's statement, that those who need education the most desire it the least. Our people had not become educated up to the point where they would demand these privileges, so this work has all to be done over again. It is discouraging to us. We want to understand the character of those who oppose us. We must meet their arguments by

arguments, their denunciation by denunciation. We must call these things by their right names. These men must be voted down. This has not been the work of any one party in Maine. No party in Maine dares to put an educational plank in its platform. No party dares make an educational issue. One party had control of the House in the Maine Legislature last year, and another the Senate, yet these bills passed both houses. Advocates of a thorough system are to be found in all parties, and opponents are to be found in all parties. I believe politicians of no party can be depended upon for such education as is demanded.

Mr. H. P. Warren, of Plymouth, N. H., said :—

I agree substantially with the preceding gentlemen, but I think the case has not been fully stated. The people of every town in New Hampshire of 5,000 inhabitants believe in high schools. There is no opposition in such towns. I use that number, 5,000, as approximating to the right number; but I do say further, that throughout New Hampshire there is a prevalent dissatisfaction with high schools as at present conducted, and I think it foolish for us to deny that the people have good grounds for complaint. I have been a high-school teacher for five years, and I think I know that there are reasons for complaint. In the first place, the average man never asks whether his boy or girl knows anything till they get out of school, when he finds that he or she cannot write a legible hand; if his boy has occasion to write a letter, he finds he cannot express it properly, and that he cannot talk intelligently on many subjects: and he blames the high school, and with a good deal of reason, I think. Now, I do not hesitate to say that the reason the high schools of New Hampshire have failed is that one half the time of the pupils has been wasted before they come into the high school. We have not spent too much time on the high school, but too little time on the primary school. We have taken green boys, children badly trained, into the high school, and tried to make scholars of them.

The time will come when New England will be enthusiastic

in the matter of high schools. What is my remedy? It is this: A higher standard of primary instruction, in which is recognized the fact that a child's standard is made before the age of twelve. Boys and girls who have half-educated teachers show the effects in their own education. Have perfect teachers always; but if there are any poor ones, don't let them be among the elementary teachers. These should be the best always. When this fact is recognized, you can have plenty of people rallying to support high schools. It is the common people, it is you and I, that provide money, enthusiasm, and intelligence to make our schools a success.

At the close of the discussion Mr. D. P. Allen, a colored teacher of Lumberton, North Carolina, was introduced. He said:—

Ladies and Gentlemen,—It affords me great pleasure to present my case before you. I am not prepared to make any speech before you, and I presume you would be more interested in a statement of what I am doing in my State. I can best make this statement by giving you a brief history of the work in which I am engaged. I graduated from the State Normal School at Westfield, Mass., in the class of '71. In the year '72 I went to Lumberton, N. C., where I opened that year a public school. I found the attainments of the teachers of both races in our community so low that the Superintendent of Public Instruction had ordered a higher grade of certificates throughout the State. This deprived our county of every colored teacher, and of nearly half the whites; so that after two years' work in the county there was not a colored person in the county that could teach the people, and not more than three hundred children out of a school population of over 3,000 that were receiving any instruction whatever. In the years '74 and '75 I was moving from district to district in the county, teaching public schools. A few young men followed me from district to district, and thus prepared themselves for teachers. In the year '76 I organized a normal class of half a dozen, all of whom received certificates to teach. These were the first teachers in the county.

In the year '77 this number reached a dozen, and in '78 it reached nineteen. This year the number has reached twenty-six. Last year the report of the County Board of Education shows twenty-two teachers in the county, all of whom have been sent out from the school in which I teach; and instead of the three hundred children taught the first year, I found on going through last year that there were about 2,900 children taught. These teachers received about \$2,600 from the county, instead of the \$300 they received the first year. This normal school has been regularly organized this summer, with classes formed and a course of study the same as that pursued at Westfield. The plan, as far as possible, has been the same. The senior class has completed the studies of the fourth term, with the exception of four weeks' work. These teachers are in great demand, and take a leading place in the districts where they go, for others have no instructions for teaching.

Besides the normal school, I have taught also two sessions a year in the public school: one of three months in the country, and one of four months in the town of Lumberton. Thus I have been engaged all the time teaching. I have been seven years in the South, and have not taken a vacation, excepting six weeks the first year. Some of the time I have taught fifty weeks in a year. I was compelled to do this, for the salary was so small I had to do it to live. I am here to-day for the purpose of soliciting funds for a normal school in Lumberton. We have no school-house in our county. Most of the schools are taught in the churches, which are all poorly built. In the town where I live I have taught for seven years in churches. Of late years the church has become the scene of considerable disorder, on account of two rival denominations claiming it. It has made me very uncomfortable, keeping me between two fires. Being able to travel a little cheaper now, I have come to this association, — which has put many new ideas into my head, — for the purpose of presenting my case to the people. I know many of you realize what a struggle life is to the teacher who has nothing to do with, though I suppose none of you have taught where there was no place to teach in; I suppose none of you have taught where the people thought only a spelling-book was

necessary to teach everything. That is where I have taught, — where there is no good, comfortable house, and no good books. In this condition I have come before this body of teachers, hoping you will give me your sympathy. I have worked at a great disadvantage on account of my poverty, and I thought of the people with whom I got my liberty; and I desire and trust that the people of New England, who have always been warm friends of the oppressed, will not turn their backs upon me in this instance.

At the close of Mr. Allen's remarks the following letter in regard to him was read : —

LUMBERTON, N. C., July 1, 1879.

HON. JOHN EATON,

U. S. Commissioner of Education, Washington, D. C.

Dear Sir, — This will be handed to you by Mr. D. P. Allen, teacher of the normal school for colored people in this town. I feel constrained to ask your permission to say more in this connection than would be allowed in a mere formal, official introduction. Mr. Allen came to this place several years ago, — in 1872, — and established a colored school. His attainments were so far above those of any other colored teachers known to this community that he at once attracted the attention of the County Board of Education, while his close attention to duty and his gentlemanly deportment won the confidence and esteem of all classes of citizens. During all these years his conduct has been such as to constantly elevate him in the estimation of the public, while his close and assiduous attention to the duties of his profession has been crowned with such success as to merit and extort the highest commendation from intelligent people, and almost entitle him to be called a benefactor of his race.

This is high praise, but it is only just; and as an evidence of it I would state that the official report of the County Examiner to the County Board of Education, at the close of the last school year, showed that twenty-three per cent of all the school teachers to whom certificates were given during the year received first-grade certificates, while only twelve

per cent of the white teachers received first-grade certificates. When it is remembered, in connection with the fact just stated, that he found his race utterly ignorant and poor, with every disadvantage to contend with, and that he has brought these teachers up to the same standard as the whites (for there is but one standard of proficiency for white and colored), the importance of the work accomplished by him appears all the more prominent; and to this it may be added that every colored teacher in the county has been trained by him, except one.

Mr. Allen goes North, I learn, for the purpose of raising funds to enable him to establish his school upon a better and more permanent basis; and it affords me great pleasure to say that any aid that may be extended to him will be worthily bestowed.

I am, sir, very respectfully,

Your obedient servant,

J. A. McALLISTER,

Examiner Robeson County.

Indorsed by W. B. Blake, former examiner, Mr. Allen had also the indorsement of prominent citizens of his county.

After the reading of the above letter, Messrs. Walton and Dickinson spoke in terms of high praise of Mr. Allen, having known him personally. A committee of nine was then appointed to raise funds for him.

Prof. Hibbard read "The Creeds of the Bells." A lesson in numbers was next given by Mr. George A. Walton. (See Lectures.)

EVENING SESSION.

Prof. C. A. Young, of Princeton College, delivered a lecture on

ECLIPSES OF THE SUN,

illustrated by means of the stereopticon. (See Lectures.)

At the close of Prof. Young's lecture, the subject of raising money for Mr. Allen, of North Carolina, was again brought up.

Mr. Tweed, of Boston, said :—

In regard to Mr. Allen, I know less of what has been done by him than some others present. I was much interested this morning in the intelligent story told us by Mr. Allen himself of what he has done, so modestly and without any flourish of trumpets, and also to hear him indorsed by Mr. Dickinson and Mr. Walton. My sympathies were aroused. I felt that it was one of the best opportunities for us to make a good, charitable investment. The sum asked is almost ludicrously small when we think what it may accomplish,—some five or six hundred dollars. I hope Mr. Dickinson—who, I think, is present—will repeat the statement he made with regard to the history of the man. I hope, too, we shall have read again the letter of indorsement from his friends in North Carolina, where he has done so much, and where, too, undoubtedly, with a little assistance, he could do much more. Then, it seems to me, we can settle this matter to-night, while a large number are present.

In response to this call Mr. Allen repeated some of the statements made by him in the morning, and Messrs. Dickinson and Walton again heartily commended him to the confidence and sympathy of the audience, when a collection in aid of his work was taken up, which amounted to \$168.

Gen. Eaton, of Washington, said :—

My Friends,—Your action at this time is the occasion of the words I speak. What you have done indicates an interest on your part in what I am seeing and sympathizing with every day of my official life. Your contribution here is towards a work that it has been sought to accomplish completely by national action, and in which it is here your privilege to participate. To-night there have come to you facts

which I know well; facts in relation to embarrassments and difficulties, not in one State alone, but in many, in the organization of schools: lack of houses, funds, teachers, and lack of interest. What will you do? And yet there are warm friends of education scattered throughout those regions of the country, — friends wanting to do, and ready to sacrifice. As a means of accomplishing this end, of helping on the great work of education, a great measure was offered by Mr. Hoar in the House of Representatives at Washington. It is known that the great funds in possession of the different States of the country, the annual income of which does so much towards education, were originally derived from national sources, — from the sale of public lands. The bill I have referred to proposed that the revenues from the sale of public lands for the first five years from the passage of the bill should be devoted to educational purposes throughout the South. This bill passed the House of Representatives, but failed in the Senate.

You have all heard of Mr. Peabody's generous gift to the South, and the great good it has done in supplying teachers and establishing normal schools throughout those regions now so embarrassed. But much more is needed, and this scene I have witnessed here to-night has gladdened my heart; and it will gladden many hearts. May I ask that you will continue what you have commenced here to-night, that this sentiment may be promoted and wide-spread throughout the country? If I could take the time here, I could tell you what is being accomplished in North Carolina. Two normal schools have been established, one for whites and one for blacks. By the aid of Dr. Sears and the Peabody fund this is being accomplished. Dr. Sears was evidently designed by Providence to do this work. With a marvellous skill, he knew how to aid these struggling normal schools. Instead of establishing a school to run through the year, they agreed to organize a temporary school, securing the general features of the university. They secured the aid and services of a man well known in New England as an instructor at institutes and high schools. There gathered a large number of teachers at the institute. The

colored normal school was aided in a similar way. A new impulse has been given in that State to education. There are efforts being made in the South, not only among the blacks, but among the whites, — efforts similar to these we have witnessed here this evening. A man went into the mountains of Tennessee, on his own impulse at first, but aided finally by Quaker friends, and established two normal schools, where were trained teachers for the whites. I will not attempt to describe the situation in which these people were found; but I will state one fact, that there were few roads and almost no carriages or carts to transport anything upon, transportation being done by men and women on foot or horseback; girls, thinly clad and without shoes, taking grist to the mill. Those men have been at work and trained teachers to send through those mountains, with but little aid from Tennessee on the one side and North Carolina on the other. They go out and teach and establish schools, till the whole region is rising in character and excellence. There is a steady growth and progress in the South, among the thoughtful and those devoted to the public welfare; and according to the figures of reports at our office in Washington, there are now about 600,000 colored youth under instruction in the Southern States.

Mr. Hagar, of Massachusetts, said : —

Sir, the chairman of this committee is not present. I do hope a larger sum will be raised for my colored brother. I was thinking just now that we have about 1,600 members who have come up to this grand gathering. I don't believe in sympathy alone. We want sympathy in the shape of money. There are people who have come up here with pocket-books swelling with money. We could give Mr. Allen \$1,600. I hope that he will go back with at least \$500.

The exercises were closed by singing by Mrs. West, and readings by Prof. Hibbard.

THIRD DAY. — THURSDAY, JULY 10.

Devotional exercises were conducted by the Rev. G. B. Mains, of Bristol, Conn.

Gen. Eaton, of Washington, said : —

Mr. Chairman, — I notice that we are permitted to greet a friend here from a distance, who, though living in the West so long, is a native and a worker in this neighborhood, — Dr. Pickard, president of the University of Iowa.

Dr. Pickard said : —

Mr. Chairman, — I rejoice in being with you in my old New England home.

I greet you from the West, — not as far west as friend Harris, but one of the broad States where we have room to grow. I come to congratulate you on the success of this association, and hope many of you will find it to your interest to come out and work in this good missionary work. I have met with a good many people who seemed to think I had passed the boundaries of civilization, and who have asked me whether there were any other white people in our vicinity. It makes no difference to us whether we are in Maine, California, New York, or New England. We are all brothers and sisters in one great work, — a work in which I have spent the best part of my life, unless I shall be good for fifty years more. Massachusetts is my native State, Maine the State of my education, and New Hampshire the State of my first experience in teaching. They are all very dear to me.

I thank you for the opportunity of welcoming these good friends, and of standing here among friends whom I have known and appreciated in earlier days. I thank you also for the opportunity of addressing the association, the first meeting of which my good father attended, and was one of the framers. It is an association that has a grand history, and I rejoice much in your prosperity.

EXTREMISTS IN EDUCATION.

Mr. A. C. Perkins, principal of Phillips Academy, Exeter, N. H., read a paper on Extremists in Education. (See Lectures.)

DISCUSSION.

Mr. Bridgman, of Cleveland, Ohio, said : —

I would like to emphasize one point, namely, that in reference to written in distinction from oral teaching. I would like to emphasize it in reference to a particular aspect of this subject, viz., the oral examination. I believe Whitman's dogma in regard to reading the true one. I believe in the class-room the two methods, the written and the oral recitation, should be combined. It is about twenty years since the old-time public examinations, before committees and before such friends of the school as could attend, began to be given up; and during these recent years they have been utterly abandoned. I think the old-time examination before a committee was a grand intellectual process and discipline. I saw a statement recently in regard to one of the theological seminaries of the country that the attendance was much smaller than formerly, owing to the fact that the examinations were largely in writing. That signifies much. Now, I never saw a grander process of intellectual gymnastics and discipline than in Dr. Taylor's class-room at Andover. I would rather a boy should not lose the discipline of oral examination in the presence of a committee. I would far rather he should not lose that if he could have but one, than to have the examination on paper. I saw a remark in the annual report of the superintendent of public schools for this State of last year, that the pendulum has swung far towards written work, and he thought it would be likely to swing back. I hope it will at least swing back half-way, and that we shall not abandon the old process of oral examinations.

Mrs. N. L. Knox, of Boston, said : —

May a woman be permitted to speak here?

The PRESIDENT. — Certainly, we should be very happy to hear you. Please come forward.

Mrs. KNOX. — I will come forward if you will not introduce me. We are making too much of the speaker, and too little of his message. In regard to this paper, I have one thing to say. I know that there are extremists in education, but I believe that their views, if not harmonized, may be modified, and so far as worthy placed at the command of intelligent skill. It is useless to denounce theories, and more than useless to talk about the science of education, before theories have been made matters of experiment.

Our lecturer, last evening, reminded us that in 1868, the astronomical eyes of the world were fixed by previous consent upon but one point of interest in the solar eclipse. In 1878 the phase to be studied was a different one, and wherever there was a student and a telescope, the one phenomenon agreed upon was observed. There was no wasting of precious seconds in viewing the peculiar tint of the heavens, or the strange lines of light on the earth. Each was the servant of science, not the doer of what seemed best to himself. When all the teachers present are ready to put aside their own strong prejudices, to sacrifice for but one year their own convictions as to whether the idea of one or of many should be first presented to the mind of the child, and experiment, faithfully and repeatedly, upon any one prescribed order and plan of teaching any subject, the science of education will have taken its first step. It is idle to come up here every year and trouble our souls with denunciation. Instead of appointing a committee to draft resolutions thanking everybody and congratulating ourselves, I should favor the appointment of a committee to recommend to this Institute something to be done during a given year. Let the teachers forget to be jealous in pushing their claims to the authorship of some plan or order of teaching an item of knowledge, and faithfully follow the course prescribed, and report the result. Something more than the mere success or failure of the experiment must be reported. We must know the number, the age, the nationality, and the attainments of the children with whom the plan was tried. We must be told their social con-

dition, and hear of the help or hindrance which they had at home. Then, and then only, we shall be able to say, "Thus much we know about teaching. This is sound. This plan will fail or succeed under given conditions." Now we are in a fog. The superintendent of public schools in Boston has taken a step in the right direction, — he is trying an experiment; but let us see under what conditions. I visited a school not long ago on what is called the Back Bay. The building is a model of convenience, cleanliness, and beauty. The children who meet there come from homes of refinement and morality. I gave a lesson on the natural divisions of land and water to a class of children in which there were but four who had not travelled at least as far west as Chicago; many of them had been to Europe; some of them had visited Europe more than once. The next day I visited the Quincy School, near the Boston and Albany Depot. The contrast was shocking. The children were dirty, ragged, deformed, neglected. Some of them had never even seen the country. What plan should you use in teaching to such children the lesson previously given? They will be required to pass the same examinations, and to be promoted or discarded by the same standard applied to the children in the former school. The teacher of the one class will say that Superintendent Eliot's plan is feasible, and the work may be well done; the other will say that the plan is chimerical, and the standard too high. Neither opinion could be of any weight, unless both teachers stated the conditions under which the work was attempted. And this is the scientific study of education, and this the kind of work which seems to me to be of value to educators.

Mr. Harper, of Farmington, Me., said : —

With regard to morals in schools, it seems to me this is a subject that has got to come: first, because it is right; and secondly, because we cannot do without it. But the attempts in this direction, so far as I know, have not been successful. I think we must get rid of one difficulty before our friends can be satisfied. I think our difficulty has been, and is, this: we have attempted to teach morals by making the Bible our

ultimate authority. Now I am a believer in the Bible in the ordinary orthodox sense; but I am inclined to think, in the nature of things, that it cannot be our ultimate authority in matters of faith. Before we can be successful, we must base our teachings of morals upon the nature of things. We must teach them because they are based in the reason of things and the nature of things. It seems to me, and I think that educators generally share this opinion, that until we can make instruction in morals a distinctive and essential part of the curriculum of studies in every common school, the schools will not answer a most important end, and will not satisfy the American people. Everybody will feel a terrible lack somewhere. Instruction in morals is the remedy.

Dr. McVickar, of Potsdam, N. Y., said :—

I think a wrong impression may prevail on several points in the matter of object teaching. I was sorry to hear the author of the paper make the distinction that was made. I do not understand object teaching in that sense. I should prefer another word, — objective teaching; and so get rid of that common notion, that those who hold to the doctrine of realism are so narrow-minded as to confine their views entirely to the five senses. Certainly, if I wanted to feed any element in my body, — if I wanted to feed the brain, for example, I should use the elements necessary to make that peculiar brain matter. And if I wanted to produce bone matter, I should certainly not leave out the phosphate of lime. Now, if I wanted to feed one part of the nature or the mind through one class of instruments called the senses, I should use the necessary influences. There is no way to teach color but to have color, and there is no way to teach extension but to have extension. And if I am asked if that is the object, — the circumstances outside of myself, — I say, yes. If I am asked if I would teach it objectively, I say I certainly would. But it has come to pass that a large number of intelligent teachers talk to us and say, "Oh, you are object teachers." Well, in that sense, I am an object teacher; in the sense that whatever element I am dealing with, that

thing itself must be the thing presented to the pupil, and not something else. And here is the point I am sorry to hear the gentleman make, — that it is all well enough for children. He may refer to Paul's saying that "When I was a child, I spake as a child, I thought as a child: but when I became a man, I put away childish things." And so we do. For my own part, I know no way of studying time otherwise than by dealing with time. There is no other way than by placing my mind in conscious relation to that entity. I know no other way of dealing with space—call it what you may—than by dealing with that entity. Go into any speculation, and there is no way to become conscious of the reality other than to have the thing itself there. Those of us who are advocates of the object system, — though it is a wrong name, — we certainly do believe in that. We believe that from the cradle to the grave, God has so constituted us that we cannot be successful in developing our own being and mental faculties, and in becoming properly related to circumstances outside of ourselves, otherwise than by placing the conscious mind in relation to the thing itself. Perhaps the gentleman intended to present this view, — I have no doubt he did intend to; but I was sorry to hear the distinction he made. I am not here to talk of college work, but in my own college work I do meet with realities. I would that the better part of my life had been spent in placing my mind in relation to what is, instead of speculating upon what is called thought.

Reference has been made to the extremists in education. I agree with the gentleman; I believe all these things must be taken together. But I believe the time must come when language must be studied as a reality, and not have a boy spend his school days as I did, in studying Latin grammar in a Latin book with not a word of English in it from beginning to end; committing to memory page after page, of which he does not know the sense of one word in ten. With the objective method, we must bear in mind that in the study of a page of Latin, there is an objective element there, just as much as in the substances handled in the laboratory. There is no difference in regard to the method,

from the child's first circumstances to that time when he shall be permitted to enter the broader elements of speculation in later life. There is no difference in the mind. It is the conscious mind placed in actual relation to the entities of life. So I understand object teaching. It does not consist in playing upon a little set of objects. That is all well. But when I become a man I must follow precisely the same course.

Mr. John Hancock, of Ohio, said : —

I believe the written examination has been the most powerful means of advancing education in this country. I believe it has had an effect for good, not only upon scholars, but upon the teachers themselves. The oral examination may be good for finding the general standing of classes, but as a method for finding where we do actually stand, and conveying that knowledge both to pupil and teacher, no means is so effective as the written examination. It not only clears up difficulty, but lets the pupil know where he is. I want no child of mine examined in a capricious way. These oral examinations are often capricious, and depend upon the temper of the teacher at the time, and the atmosphere outside of himself. The written examination is steadfast. The pupil knows what he is to do. It gives him a power of expression that he cannot obtain in any other way. The written examination may not measure everything, but it does measure the things it attempts to measure, with more exactness than any other method.

ORAL TEACHING.

Secretary J. W. Dickinson, of the Massachusetts State Board of Education, delivered an address on this subject. (See Lectures.)

DISCUSSION.

Rev. A. D. Mayo, of Springfield, said : —

I intended to say a word at the close of the previous address [Mr. Perkins's] on moral teaching, but I am glad I

postponed it till after the admirable address of Mr. Dickinson; for with his usual felicity he put his finger on the vital spot of all teaching, when he said that all the moral teaching done by the teacher is in proportion as the teacher is moral or immoral. In proportion as the teacher is the incarnation of the Bible, or the nature of things, you get moral teaching. I remember three teachers, who seem to illustrate the three methods in moral instruction. I remember a schoolmaster so much impressed with the idea our friend has brought forward, that what we needed was to show that moral teaching rests upon the basis of things, that he wrote an elaborate manual to prove it. The hitch with this case is that that teacher is on trial for long-continued drunkenness. He switched off from morals, and the use of that manual he wrote would produce no impression upon his pupils so long as he was a drunkard. I remember another teacher, who taught on the Bible as a teacher. The scholars were reading in the Bible one morning, when it came along to Master Timothy Dwight Jones's turn. Timothy Dwight, not having his mind on holy things, was cutting capers with a pretty girl at his side; whereupon the teacher turned his Bible down on the passage where it says "God is love," came down from his desk, and boxed the ears of Timothy Dwight Jones. The Bible was right, but the teacher was wrong. I remember another teacher. She taught our little district school; and whenever I looked at that teacher she answered completely my idea of the Bible and the nature of things. Whenever I looked at the sun I could see nothing but her. Such an incarnation was she of all that is good and true in life, that no child she ever taught has ever been able to get that woman out of his mind. I venture to say that all the pupils of that teacher, scattered from Portland to San Francisco, would feel their hearts thrill at the mere mention of her name. That teacher was morality, truth, wisdom, and love incarnate. Jesus does n't tell us, when he talks about religion up there, that the Bible is the ultimate authority, but he says, "Love God, love man." God is the infinite person; man is the person derived from God. Therefore all our teaching of morals must come from the person objectively. We are all

the time in this life hunting for our spectacles when they are on our nose. For fifty years we have been disputing as to the best way of teaching, when all the time the best teaching has been that of morality. Discipline is moral teaching incarnate. Morality saved us in the first revolution, and it saved us in the second revolution. Always where there are good, substantial manly and womanly teachers in the schools, they can be trusted to carry them along. Such teachers can be trusted to teach morals with any manual, especially with any Bible, as truly as Mr. Dickinson with the dictionary.

Mr. Tweed, of Boston, said : —

I wish to call attention to one thing: When you hear of oral teaching hereafter, I think you will not infer that all text-books are eliminated from the schools. I hope this will be the case, because during the last year I have been much annoyed by finding that whatever has been done or said about oral teaching in Boston has been so interpreted. Yesterday I met a normal-school teacher from New York, and he said he feared we were making a mistake in depending entirely upon oral teaching in our primary lower schools, and in discarding all text-books. I asked him if he was sure anything of the kind had been done. He said he had no doubt of it, as he got his information from the educational journals. I told him these journals had failed to teach those who took them if they gave such an impression, and assured him that in Boston we not only retained all the text-books we ever had, with the exception of the spelling-books, but that we had introduced three times as many books into the schools. The children were literally starved before oral teaching came in. In three classes in one school we had Hillard's Second Reader, containing a little less than a hundred pages of solid reading matter. That was all the reading matter those children had in the third, fourth, and fifth classes for a year and a half. There were five hours and twenty minutes allowed to every page in that book, and they read it over and over again. I have been in a primary school where the teacher said, "Can't we have some other

reading matter?" That was before we had so much oral teaching. She said, "My children can say all of this." A little fourth class was out reading at the time, and she said to one little girl, "Sadie, close your book, and tell me about the little song-bird." She did so, and didn't make as many errors as she would have done with the book before her. She had learned it by heart. Another one repeated the lesson about the bird's nest, and so on. That was before we had oral teaching. We now have oral teaching, and we read the same text-books as before. We have the "Nursery" and other books. We have at least four times more reading than before. In grammar schools it is the same. I want to correct the impression that everything is to vanish into thin air on account of oral teaching. That is the impression that has gone out, and it is a wrong one.

Gen. Eaton, of Washington, said :—

I have been deeply interested and deeply gratified by this discussion. There has been the greatest harmony from the first paper to the last speech. It was intimated in the first paper that the happy condition would bring together a harmony of classical and scientific education. That has taken place in Germany, where both the classical and the scientific are carried to their extremes, if anywhere. Classical education pushed itself till there was a rising antagonism among the people. Then came scientific instruction. Where are the schools of the gymnasia of Germany? Subsiding in part, or yielding to this competition. Now this vibration in the pendulum became so materialized, so to speak, that a great body of educators—those in the technical as well as those in the classical schools—began to fear that it was materializing the minds of the country. So the leaders were called together at Berlin to discuss the subject. I was in Berlin at the time. The president of the meetings reported to me the most severe antagonisms. What was the result? Those who were antagonistic found that each of their opponents had merit and excellence, but that neither side could destroy the other. What was needed was the harmonizing of both.

They published a protocol, and the good of both sides was retained. We have seen this morning that the defects, the evils that we deplore, are due largely to misapprehension. Now classical men find in Germany that the leaders of scientific work are claiming emphatically that there must be classical instruction, even in the scientific schools; that it will unbalance them unless they have classical education there. On the other hand, the classical men are calling for scientific work in their instruction. So if the teacher going to extremes will take time to go to the other school-house and the other system, or come down to the Bureau of Education and sleep one night, he will see how beautifully the two systems harmonize.

I wish to say another thing. In Dr. Dickinson's fine paper many difficulties are cleared up, as it appears to me. And yet, on his taking his seat, I find at once, by what comes to my ear, that there is a misapprehension, a misconception; that that wonderfully clear statement is not clear, after all. Now we are so differently constituted, we have such different measures of information, we look through such different glasses, that it is difficult to get the same idea of the same thing. As these thoughts came to me I was struck with an illustration of their truth which I once had brought under my own observation. On my return from Europe I first met Gen. Grant as I was going for a physician for my child. He was taking a morning walk and turned and walked with me, and began to discuss the differences of education in Europe and this country. Among the things I suggested was this: that among the differences I observed over there in which they excelled us was the scientific manner in which they illustrated subjects in education, the manner in which they used educational appliances. Said he, "What do you mean?" I said, "You know at West Point you had one or two sets of conic sections, suggesting a section in geometry. You know how much aid they gave the class in mastering a proposition; they conveyed the idea readily." "But," said he, "I never looked at them; it was easier for me to understand the proposition as I took it from the book than to get it the other way." This is simply an illustration of the differences in

minds. And the teacher must bear this fact in mind; he must have that power of discrimination to fit the method to the individual.

I wish to call attention to another point. It may be thought from what we have been talking about, excepting where we have touched upon morals, that we believe, as individuals, that all work through the teacher is through cognitions; that there are no intuitions. We want to remember that while we are teachers, there are multitudes of individuals, of minds, that never come within our reach. We should remember those minds that have not been moulded by methods, oral or written. We should not monopolize the idea that the world is not regulated beyond us, and that there are not methods of improvement beyond those we are controlling ourselves. We should remember how little of culture such men as President Lincoln and Hugh Miller had. While we are crowding our methods, we should feel that after all the thing to be secured is, the reaching of the largest possible number of individuals. While at work in the school-room, we should remember that there are influences outside the school-room, and it should be the effort of us all to include, to reach every mind in the community.

I want to call attention to a single point which has been brought out beautifully by Dr. Dickinson. Education has been subjective in the past. Plato, Socrates, Aristotle, developed their various theories and speculations upon the human soul. Now we have come to another period. We recognize the objective facts in education; and the opposition to education we are encountering comes from this objective condition in society and in civil affairs. Men find it costs money and requires time, and these considerations touch their selfishness with respect to their children or the community. Now, then, teachers and friends, we must, by the use of these structural facts, observing them, recording them, and using reports and statistics, if you please, bring together those results, which will show that the largest selfish interest accords with the largest subjective interest in the past. By bringing the two together we shall have the strongest possible position as educators. I believe we are approaching this result more rapidly than ever before.

Mr. G. T. Fletcher, of Maine, said : —

I must say a few words of hearty indorsement of this subject so ably presented by Dr. Dickinson. I believe from my own observation and experience that one of the greatest lacks we come in contact with is the lack of knowledge of mental science. I remember hearing Starr King many years ago upon "Sight and Insight." He called our attention to this point: that in the first place, if we want to teach well we must know ourselves. We must turn our thoughts, our minds, into ourselves, that we may know something of our inner consciousness. We must know the workings in these minds of ours. The methods here can be applied. Here are working principles.

Dr. Nathan Allen, of Lowell, Mass., read a paper (see Lectures) on "The Education of Girls as affected by Growth and Physical Development."

The reading was followed by an informal

DISCUSSION.

PROF. E. A. SHELDON. — Do you consider the free gymnastic exercises, as practised in our schools, good for the training of girls? and if so, how do you think they can be used judiciously?

DR. ALLEN. — I cannot, perhaps, go into detail. They can be judiciously used if properly introduced and conducted. I refer to this in the concluding part of this paper, and also their use in the family aside from the training in schools.

PROF. SHELDON. — I have found trouble in regard to the training of girls, and have finally had to turn over this subject to a teacher who is a doctor. I became convinced that it was not safe for girls to practise gymnastics indiscriminately.

MR. HANCOCK. — Do you use it in classes?

PROF. SHELDON. — Yes, but we have found it necessary to excuse a good many.

DR. ALLEN. — It was suggested in the college I have referred to that there might be cases who could not go

through all these exercises, and would have to be excused. But there were only a few such cases, and among those who had heart or lung difficulties. The number of those excused has been magnified. We cannot introduce gymnastics into schools till people understand more thoroughly that these things come into education as much as things of mind and matter. People do not see where this thing tends.

PROF. SHELDON. — Are teachers prepared to use this exercise indiscriminately? Should not they understand perfectly the physical laws of our being? Is it safe to require every girl to enter into gymnastic exercise? Should it be required every day, or are there times when some should be entirely excused, and others who should be occasionally excused? And don't we need a physician who understands the whole thing thoroughly?

DR. ALLEN. — Yes; but the subject will never be understood till it is brought out more thoroughly. Obstacles will continue to come up.

COL. HOMER B. SPRAGUE, OF BOSTON. — We have in the Girls' High School in Boston about six hundred and fifty girls, between the ages of fourteen and twenty-five. It is a part of their regular work that they shall have daily drill in physical exercise. This is conducted by a school-teacher who has had special training for the work. These exercises last daily from fifteen to twenty minutes. All the students are required to take them at one time; sometimes there are girls who are excused. Classes come in, in numbers of from fifty to one hundred. These exercises are taken to music; they are beautiful, and the girls choose to go through them; but there are some who have to be excused. You will see half a dozen sitting around the room, who, for good reasons, are excused. The effect of all this exercise is admirable. During the three years I have had charge of the Girls' High School in Boston no pupil has been injured so as to have to leave school from excess of study. I think the physical exercises have kept them in health. No pupil has gone home to die. Within these years there has been no death among the girls except one, who was killed on the railroad. I have seen a good deal of these exercises in Brooklyn in the Adelphi Academy,

—a large academy, the principal of which is now present, and can speak for himself. The results have been good, and only good, and that continually. Show me a large college of four or five hundred that doesn't have one, two, or three deaths every year. I attribute the good health of these girls in great part to our physical exercise.

C. C. ROUNDS, OF MAINE. — Some years ago, I had in Maine a pupil, a brilliant boy, who was weak physically. He wanted to go on with his course of study, but I doubted the good of it. Wisely he chose an Amherst scholarship. His scholarship did not decline, for he is now a professor in Cornell College. He was one who would have broken down early, but physical exercise saved him. I can remember one young lady whose health was not good; she had rheumatism. She took the exercises and got better. But the question is, Do we not need something more? Shall we not adopt the Swedish system, the Ling system, so that those girls who now have to be excused can have some form of exercise to fit them? I am decidedly of the opinion that the exercises now prevailing are beneficial to the girls.

MR. KELLEY, OF MONTREAL. — Would it not be wise to ask the girls to do the same work as the men in our colleges? Will some one who is educating the sexes together, tell us whether the health of the girls is as good as that of the men?

DR. ALLEN. — I do not think it the place to go into a discussion of that question. There are two sides to it. I think they could do better by adopting physical exercises in improving the health and constitution. If a failure anywhere, it would be because they were not carried on as in the colleges.

DR. HEWITT, OF ILLINOIS. — I would like to ask Dr. Allen a question. I have been in normal schools for more than twenty-five years, both in Massachusetts and the West. So far as my observation goes, the health of girls is just as good as that of boys doing the same work. The question I would ask Dr. Allen is, Does his observation and experience lead him to believe that there is so much difference in the sexes in respect to the climbing of stairs as is sometimes urged? Is it so much more injurious to girls than boys?

DR. ALLEN. — It is much easier to ask questions than to answer. There may be an objection to going up and down stairs. I know something of the effect in the large manufacturing population where I live. There might be the same objection to dormitories; but I consider this a minor question.

PROF. HOOSE, OF CORTLAND, N. Y. — One or two instances are not enough to establish any law. Prof. Rounds has given the case of a young man in poor health. To offset that, I can give the case of a young lady in very feeble health who was preparing for the university. It was a question whether she should enter or not. But she went into the university at Syracuse and took a regular four years' course, reciting and doing the same work as the gentlemen, and every year she gained in health, so that when she came out, she was as strong as any lady. Now then, if I were to take that case as a standard, I should say that every lady out of health could gain it by entering a university. That is simply nonsense. So then I set no weight upon individual cases. I would say to the gentleman from Montreal, that so far as I am aware, — and I speak from considerable observation in this matter, — ladies will enter our universities with gentlemen, and keep their health just as well. That is the result of my observation. Yet others may have had experience and observation that would lead them to different conclusions. I think the matter of health largely that of individuals. You take a school composed entirely of ladies, and one entirely of gentlemen, and you will find there is a lack of that social life which stimulates so as to influence the health and keep the spirits well toned up, as we find them in mixed schools. Therefore, I say there is the more necessity for physical exercise in schools for girls exclusively.

DR. McVICKAR, OF POTSDAM, N. Y. — The matter of experience, it seems to me, is valuable on this question. I have been in charge of a mixed school, and I find a great deal of exaggeration in regard to this matter of health. I ask to-day, What is the cause of the declining health of young men and ladies? My answer is, A draft upon the nervous system through other causes than study. I am speaking from obser-

vation. I say that any young lady or gentleman can sit down and study good long hours and not have the physical structure affected a particle. For my own part, I can sit at my table from ten to fourteen hours readily, if I keep my mind upon a certain class of work. If I allow the mind to run into certain channels, the body begins to shake and tremble, and the whole system gives way. I soon find myself unfit for duty. I believe it will be found, when this question is examined, that it is mental physiology we want. I believe any young lady can be put under a course of reading that in six months would be the destruction of her constitution. This reading is the cause of physical degeneracy. The kind of reading that draws upon the emotional parts of your nature uses up your physical forces and you come into the school-room enfeebled. We get but little of you except the dregs from this emotional reading. When a young lady sits down to a novel and we see tears streaming down over what never existed, and never can exist, — when we see that, we may depend upon it that she will come into the school the next morning so used up that she can't study any good, hard, knotty question that may come up. I say this from experience. I indorse heartily the physical training talked about; but let the girl's life, particularly the city girl's life, be turned out of the channel it is now in, that draws upon the nervous system, and you need not be afraid of the results of study in our public schools. It is the lack of study — real mental work — that produces the ill health in our schools. I say this to correct any wrong impression. Let us save our boys and girls from a certain kind of mental status which can be induced by certain habits and reading just as surely as you can induce anything in natural science. Let us save them from that, and supplement it by good rugged training of the muscular system, and we shall no longer have this cry that we are killing our girls and boys with study.

DR. ALLEN. — I wish to explain that the very want of exercise of the muscles, of the voluntary nerves, destroys their power; therefore the nervous temperament becomes predominant. And this is wherein our girls and boys are giving way to this sensational state. They are losing the power of the voluntary nerves, and are therefore degenerating.

Readings by Prof. Hibbard concluded the morning exercises. His selections were from Wendell Phillips's oration on Daniel O'Connell, and Longfellow's "Old Clock on the Stairs."

EVENING SESSION.

The session was opened with singing by Mrs. West, after which W. T. Harris, of St. Louis, Mo., read a paper on "The Function of Latin and Greek in Education." (See Lectures.) At its conclusion Mrs. West sang "The Lost Chord." Prof. Hibbard read "The Maelstrom of the Mammoth Cave." Mrs. West then sang a Scotch ballad, "Mary of Argyle"; and Prof. Hibbard closed with a humorous reading, "A Piece of Red Calico."

FOURTH DAY.—FRIDAY, JULY 11.

The exercises of the Institute opened with prayer by Prof. Isaac Bridgman, of Cleveland, O., and singing by Mrs. West,— "I know that my Redeemer liveth." A. P. Stone, chairman of the Auditing Committee, reported that the books had been truly and faithfully kept.

M. Lyon, from the Committee on Honorary Members, reported the following names: Natt Head, governor of New Hampshire; W. T. Harris, of St. Louis, Mo.; John Hancock, of Dayton, O.; E. E. White, of Lafayette, Ind.; Tanetaro Megata, Japanese Commissioner of Education, Boston. The nominations were confirmed.

JOURNAL OF EDUCATION.

T. D. Adams, chairman of Committee on "Journal of Education," made an address on its merits and its claims on the teachers and friends of education throughout the country, and submitted the following resolutions :—

Resolved, That the calling of the teacher is one of the most useful and honorable in the world; and that among the most probable tendencies in the work is a forgetfulness among teachers of the responsibilities which rest upon themselves in training the young for the duties of life and of citizenship in our nation.

Resolved, That, in view of this tendency and responsibility, we hold it to be the duty of all teachers to equip themselves with the implements of their profession; to secure all the means within easy reach by which they may become more efficient in the work intrusted to their hands; and that teachers who fail in this regard are unworthy of employment in this sacred work.

Resolved, That we look with pride upon the fact that a committee of distinguished educators, representing the most civilized nationalities of the earth, recently declared at the Paris exposition that our own national "Journal of Education," published at Boston, was the best in the world, and gave the bronze medal, the highest award possible, in testimony of their decision; that in our opinion the same amount of literary and professional matter, so fresh, invigorating, useful, and helpful to the teacher, can nowhere else be found in the same space and at the same cost.

Resolved, That we urge upon all teachers to subscribe for this journal, and to read the same from a sense of duty, from a love of country, and as a token of their acknowledged responsibility in the cause of public education.

After remarks of a commendatory character by Mr. Mowry, of Rhode Island, the resolutions were adopted.

ADVISORY BOARD.

The following gentlemen were elected Advisory Board of the "Journal": C. C. Rounds, Maine; Hiram Orcutt, New Hampshire; Edward Conant, Vermont; D. B. Hagar, Massachusetts; W. A. Mowry, Rhode Island; I. N. Carleton, Connecticut.

REPORT OF COMMITTEE ON RESOLUTIONS.

A. P. Stone, chairman of the Committee on Resolutions, reported the following, which were adopted: —

Resolved, That in bringing the fiftieth annual meeting of the Institute of Instruction to a close, we tender our most hearty thanks to the officers of the association for the excellent arrangements they have made for this meeting, and for their success in carrying out the programme of the same; to the several railroad and steamboat companies for the reduction of fares, extra trains, and other favors which have contributed to the success of the meetings and to the comfort and convenience of those in attendance upon them; to the proprietors of all the hotels here and elsewhere who have extended their liberality and courtesy to the members of the Institute; to the gentlemen who have contributed papers, and to those who have participated in the discussions during the sessions of the Institute; and to Mrs. West and to Prof. Hibbard for the very acceptable music and readings which have added so much to the enjoyment of all persons; to the newspaper press, and especially to the "New England Journal of Education" and other educational journals, for giving information concerning the meetings, and for calling the attention of the public to the same.

Resolved, That we are under special obligations to the Boston, Concord, and Montreal Railroad Company, and to the Fabyan Hotel Company, for the erection of this beautiful pavilion in which the sessions of the Institute have been held, and to Capt. C. W. Shedd for decorating the pavilion, and for his assistance during the meetings.

Resolved, That we hereby tender our most sincere thanks to J. A. Dodge, Esq., superintendent of the Boston, Concord, and Montreal Railroad Company, for his unwearied efforts in securing the erection of this pavilion, for his interest and assistance in the affairs of the Institute, and for his uniform courtesy and kindness toward its members.

Resolved, That we hereby express our high appreciation of the work of the National Bureau of Education, particularly in respect to the comprehensive plan of its annual reports, and the value of its circulars of information. We would express also our gratification at the increased appropriation recently made by Congress for the work of the bureau, and our firm belief that the collection of educational statistics — made by this bureau for the first time in the history of our government — will from year to year prove of increasing value, and we hope that no reflux wave of economy or opposition will be allowed to abridge or interfere with the scope or usefulness of this great work.

Resolved, That we reiterate our views expressed last year that the net proceeds from the sale of public lands of the United States should be sacredly appropriated to educational purposes.

Resolved, That we recognize with unfeigned gratification the hopeful signs of the times in reference to educational affairs; and finally, believing that the permanence of our republican institutions cannot be maintained except by the constant elevation of the masses of our people in intelligence and virtue, we will not countenance any retrograde movement in this respect, but will strive by all honorable means to secure such an onward movement as shall insure the perpetuity of free institutions and the elevation of our race.

Resolved, That it is the unanimous opinion of this Institute that the time has come when the life and growth of our common schools imperatively demand that organization and supervision which can be obtained only by placing their interests under the control of persons selected for their learning and experience in school affairs, and who shall devote their whole time and talent to the duties of the office.

ELECTION OF OFFICERS.

T. W. Bicknell, chairman of Committee on Nominations, made report, recommending a list of persons as officers of the Institute for 1879-80. By vote of the Institute, Mr. Bicknell was authorized to cast the vote for officers, which resulted in the unanimous adoption of the ticket as follows : —

President. — I. N. Carleton, New Britain, Conn.

Vice-Presidents. — Henry Barnard, Hartford, Conn. ; Geo. B. Emerson, Boston, Mass. ; S. S. Greene, Providence, R. I. ; Ariel Parish, New Haven, Conn. ; H. Orcutt, West Lebanon, N. H. ; Charles Northend, New Britain, Conn. ; M. Lyon, Providence, R. I. ; T. W. Bicknell, Boston, Mass. ; C. B. Hulbert, Middlebury, Vt. ; C. C. Rounds, Farmington, Me. ; A. P. Stone, Springfield, Mass. ; John Eaton, Washington, D. C. ; B. G. Northrop, New Haven, Conn. ; T. B. Stockwell, Providence, R. I. ; D. N. Camp, New Britain, Conn. ; J. D. Philbrick, Boston, Mass. ; Mrs. F. E. Kyle, Essex Junction, Vt. ; J. W. Dickinson, Newton, Mass. ; D. W. Jones, Boston, Mass. ; D. B. Hagar, Salem, Mass. ; N. L. Bishop, Norwich, Conn. ; Daniel Leach, Providence, R. I. ; A. G. Boyden, Bridgewater, Mass. ; T. H. Hanson, Waterville, Me. ; E. A. Hubbard, Springfield, Mass. ; J. W. Simonds, Milford, Mass. ; G. J. Cummings, Meriden, N. H. ; Edward Conant, Randolph, Vt. ; J. W. Webster, Boston, Mass. ; W. A. Mowry, Providence, R. I. ; W. J. Corthell, Gorham, Me. ; Augustus Morse, Hartford, Conn. ; Albert Harkness, Providence, R. I. ; C. P. Rugg, New Bedford, Mass. ; R. S. Andrews, Bristol, R. I. ; D. P. Corbin, Hartford, Conn. ; H. T. Fuller, St Johnsbury, Vt. ; G. T. Fletcher, Castine, Me. ; D. W. Hoyt, Providence, R. I. ; W. E. Eaton, H. B. Sprague, Boston, Mass. ; C. A. Downs, Lebanon, N. H. ; L. W. Russell, Providence, R. I. ; F. F. Barrows, Hartford, Conn. ; S. W. Mason, A. G. Ham, Boston, Mass. ; F. D. Blakeslee, East Greenwich, R. I. ; Miss Ellen M. Hyde, Framingham, Mass. ; Mrs. H. M. Miller, Concord, N. H. ; J. G. Scott, Westfield, Mass. ; Judah Dana, Castleton, Vt. ; A. W. Edson, Randolph, Vt. ; Miss Laura C.

Kimball, St. Johnsbury, Vt. ; H. P. Warren, Plymouth, N. H. ; Mrs. R. A. Esten, Providence, R. I. ; J. D. Bartley, Burlington, Vt. ; H. M. Harrington, Bridgeport, Conn. ; J. F. Blackinton, D. C. Brown, Boston, Mass.

Secretary. — Henry E. Sawyer, New Britain, Conn.

Assistant Secretary. — Geo. A. Littlefield, Lawrence, Mass.

Treasurer. — Geo. A. Walton, West Newton, Mass.

Councillors. — M. G. Daniell, John Kneeland, Boston, Mass. ; W. O. Fletcher, Rockland, Me. ; A. J. Manchester, Providence, R. I. ; A. P. Marble, Worcester, Mass. ; B. F. Tweed, Boston, Mass. ; J. Milton Hall, Providence, R. I. ; James S. Barrell, Cambridge, Mass. ; J. C. Greenough, Providence, R. I. ; E. R. Ruggles, Hanover, N. H.

Charles Northend, of Connecticut, chairman of the committee, presented the following

NECROLOGY REPORT.

We have assembled here, my friends, that we may celebrate, amidst the grandest scenery of New England, the fiftieth anniversary of the American Institute of Instruction, the most venerable educational association of our country. We have come up hither that we may "listen to Nature's teachings," that we may take counsel together, review the past and prepare for the future. We have met that, if possible, from this great assembly and from these grand old mountains, we may receive lessons that will better fit us for active effort, and fill us with a spirit of inspiration that will animate and quicken us in the performance of coming duties. But, my friends, all are not here whom we have met at our annual assemblings in the past. Some are detained by special duties elsewhere ; some by sickness, or dire necessity, are forced to forego the pleasure of meeting here ; others have crossed the Atlantic in quest of health and information ; and several have been called to make that endless and returnless voyage upon Eternity's ocean, a voyage we must all make sooner or later. A year ago it was our duty to report the names of six who had embarked on the shoreless ocean,

and it now becomes our sad duty to report the names of eight of our membership who will never again meet with us on earth.

LORING LATHROP.

Loring Lathrop was born at Cohasset, Mass., on the Atlantic shore. After availing himself of the limited school advantages of his native town, he became a student at Leicester Academy, where he pursued a preparatory course of study and entered Harvard College, from which he graduated. After finishing his collegiate course he entered the Divinity School at Cambridge, and studied Hebrew under the late Theodore Parker. He left this school in order that he might accept the mastership of the Endicott School, in the city of Boston. On the organization of the Chapman School, in 1849, Mr. Lathrop was transferred to the charge of the girls' department, a situation he filled with great credit until the establishment of the Girls' High and Normal School, in 1852, when he was placed at its head, a position he filled very acceptably for four years. From 1857 till 1862 Mr. Lathrop taught a private school for girls in the city of Boston. In 1867 he left this charge, that he might engage in city mission work connected with the Old South Church, in Boston, and for about eight years he was in charge of the Chambers Street Chapel, where he accomplished great good. Mr. Lathrop was the first to establish evening schools in Boston, and after a successful management of them for several years, he passed them over to the care of the city government.

For many years Mr. Lathrop was a very efficient, influential, and valuable member of the Boston School Board, an office for which he was admirably fitted by his long and varied experience in the every-day work of the school-room.

In 1875 he resigned his mission work, and after a brief rest he accepted the superintendency of the Girls' Industrial School, at Lancaster, Mass. This was his last sphere of labor, and he died at his brother's, in New York, May, 1878, at the age of sixty-five years.

Mr. Lathrop was never a robust man in his physical organization, but he was an earnest, efficient, and judicious worker in the cause of education, in which he achieved great good,

and in which the influence of his life will long be felt for good. He possessed rare executive ability, and was always a popular teacher and successful manager, a true Christian gentleman, a man of great purity of life and singleness of purpose in the work of his Master. He has gone to his reward, as

" The life above, when this is passed,
Is the ripe fruit of life below."

STACY BAXTER.

Stacy Baxter was born at Hyannisport, Mass., in 1814. At an early age he was apprenticed to learn the trade of a blacksmith, with the condition, as was customary at that time, that he should have three months of "schooling" yearly. During his apprenticeship it was his good fortune to attend a school taught by one Master Tweed, now one of the supervisors of the schools of Boston, and for many years an honored and valuable member of this association. At that time Master Tweed could not have been much the senior, in age, of young Baxter. He soon discovered that his pupil possessed more than ordinary talent for learning, and he encouraged him to avail himself of the advantages of an academic course of study. He was easily induced to follow his teacher's advice, and spent three or four years in the academy at Wakefield (then Reading), attending school a part of each year, and teaching the remainder, that he might earn the means for defraying his expenses. From Wakefield he went to Wilbraham (Mass.) Academy, where he spent two years with special reference to qualifying himself for the work of teaching. He became a successful instructor, and devoted several years to the business of teaching.

His last engagement as a public school-teacher was in Charlestown, Mass., and while here he received instruction from that excellent man and distinguished elocutionist, the late William Russell, one of the early and life-long friends of the American Institute of Instruction. Prof. Russell was quick to discover that his pupil possessed qualities which, properly trained and directed, would make him an admirable teacher of elocution, and, in accordance with his advice, Mr. Baxter decided to devote himself to this important depart-

ment, and with untiring energy and assiduity gave himself to the fullest preparation for his chosen work. He soon became a teacher of elocution, and gained an enviable reputation as one of the most accomplished and successful instructors in his chosen department, and was invited to give lessons in the Divinity School at Cambridge. Here his services were so satisfactory that he was soon made Professor of Elocution in Harvard College, a position he filled to great acceptance until death terminated his labors. Under Prof. Baxter's training there was a decided and most gratifying improvement in the elocutionary progress of the students. He readily succeeded in inspiring those under his instruction with a spirit of enthusiasm, and he came to be greatly beloved and respected by his pupils. In the words of another, "His power to teach was really a genius. He was never dogmatic, never mechanical. Elocution with him was not merely a set of arbitrary rules. It meant close and accurate criticism, breadth of thought, and depth of emotion. One seldom read a sermon or an essay to him without finding that the writing could, here and there, be much improved to help the delivery. He put his whole soul into a lesson, yet made it so interesting, through numerous comments and sallies of wit, that the student wondered how the hour had slipped away. He excelled as a penman and draughtsman, and was very skilful in illustrating by chart and diagram." "As a man," says the same friend, "he was kind, sympathetic, and affectionate, a devoted husband and father, a good citizen and firm friend."

Mr. Baxter became a member of this association in 1867. In the summer of 1878, on account of impaired health, he was granted a year's release from the duties of his professorship; and while bathing at Cape May, whither he had gone in pursuit of health, he was drowned on the 13th of August last, at the age of sixty-four years, leaving a host of attached friends to mourn the sad and sudden termination of a life of great usefulness and honor. But let consolation come from the words of the poet:—

"Death is the crown of life;

Were death denied, poor man would live in vain;

Were death denied, to live would not be life;

Were death denied, even fools would wish to die."

BENJAMIN V. GALLUP.

Benjamin V. Gallup was born in Windham, Conn., July 20, 1821, and resided there until 1837, when he commenced teaching in Voluntown, in his native county. He continued to teach in Connecticut until 1851, when he accepted a position in Washington Village, R. I., where he taught very successfully for thirteen years. He then removed to Elmwood in Cranston, now a part of Providence, where he remained as an efficient and acceptable teacher until the time of his death, which occurred after a brief illness on the 9th of September, 1878, in the fifty-seventh year of his age. Of him his friend W. A. Mowry, Esq., thus writes: "As a teacher, Mr. Gallup was a hard worker, faithful and conscientious. He never sought popularity by meretricious acts, but relied on honest work in the school-room and a watchful care of the morals and manners of his pupils as legitimate means of winning the confidence of those he served, and of elevating his school to a higher standard of excellence."

For six years Mr. Gallup was a vice-president of the Rhode Island Institute of Instruction, and for ten years treasurer of the same; the duties of both offices he discharged with marked fidelity. His example in life was that of a pure-minded man and a sincere Christian, and his memory will ever be fondly cherished by all who knew him and recognized his moral and social worth.

Mr. Gallup became a member of this Institute in 1877, though he was long before an interested and active member of educational associations in his own State. After a successful and useful service as teacher for about forty years, he has passed from earthly scenes and labors; but the results of his efforts will long be felt, and seed of his sowing will for many years to come spring up to bless and benefit the communities in which he labored. And though like him we may be called from our unfinished work, let us labor with a cheerful and patient heart, ever remembering that

"The work we leave behind us,
Though incomplete, God's hand will yet embalm
And use in some way; and the news will find us
In heaven above, and sweeten endless calm."

HENRY C. DAVIS.

Henry C. Davis was born at Goffstown, N. H., on the 19th of December, 1835. In addition to the advantages afforded by the common district school, he enjoyed the privilege of attending the Institute, at New London, N. H. After graduating from that institution he entered Dartmouth College, from which, though he did not complete the course, he received, in 1877, the honorary degree of A. M.

After leaving college he taught a graded school in Norwich, Conn., for two years, to the great satisfaction of all concerned. Mr. Davis was a good patriot, as well as a good instructor, and on the breaking out of our late war he not only volunteered his own services to his country, but he also devoted himself to the work of enlisting others. His efforts were successful. He raised a company of men, of whom he was made commander. For three years Capt. Davis served his country with great fidelity, and in the many battles in which he took part he was conspicuous for his bravery. At the battle of Winchester he was captured by the enemy and sent to Libby Prison, where he endured hardships and sufferings greater than pen can describe or mind conceive. His health never fully recovered from the effects of this exposure and ill-treatment.

Soon after his discharge from military service he returned to New England, and for eleven years was principal of one of the largest public schools in the city of New Haven, Conn. The duties of this position were discharged with great credit to himself, and to the entire satisfaction of the Board of Education. But declining health compelled him to resign his situation, and forever to abandon a profession he so ardently loved and so greatly honored. He removed to the home of his earthly father in Nashua, N. H., from which, after a painful illness of many weeks, he was called, we doubt not, by his Heavenly Father to a room in the house of "many mansions," into which pain and sickness never enter, on the 6th of December, 1878, at the age of forty-three years. Mr. Davis was not only an excellent teacher, but also a most worthy citizen, a faithful friend, and sincere Christian. As president

of the State Association of Connecticut, and as a member of this Institute, he was ever ready to give his influence and talents to the cause of education, and to do all within his power to improve our schools and elevate his chosen profession. Often on the field of battle and in prison and in sickness was our friend comforted by the thought that

" O'er the darkest night of sorrow,
From the deadliest field of strife;
Dawns a dearer, brighter morrow,
Springs a truer, nobler life! "

EBEN WENTWORTH.

Eben Wentworth was born in Buxton, Me., on the 21st of November, 1818. He was educated at Blue Hill Academy, in his native State; and after teaching seventeen years in his native town, in 1858 he removed to Portland, and became principal of the Park Street Grammar School, and still later of the North Grammar School; and so far as is known or believed, he achieved a good degree of success in every school placed under his charge.

In 1873 Mr. Wentworth was appointed superintendent of the Maine State Reform School, located at Cape Elizabeth, near Portland, a position he filled with much credit to himself until the time of his death, which took place very suddenly, from heart disease, on the 8th of December, 1878, at the age of sixty years.

Mr. Wentworth was a good teacher, and a most valued and useful citizen, ever striving to do good in whatever sphere he was called to act. He became a member of this association at its thirty-fifth annual meeting, in the city of Portland, in 1864. Faithful in every position, he has gone to receive the blessed plaudit, " Well done, good and faithful servant! "

GEORGE E. TAYLOR.

The late George E. Taylor was born in Portland, Me., in the year 1815. After enjoying the ordinary common-school advantages, he pursued a preparatory course of study at Kent's Hill Academy, in Maine, and entered Wesleyan University, in Middletown, Conn., from which he graduated with

great credit. For several years after his graduation he taught a private school in his native city, but for the greater part of his professional life he was principal, first of the North and then of the Fourth Grammar School in the city of Portland, a fact in itself highly complimentary, that he should thus be honored with the confidence and support of those among whom he was "born and brought up." He was an excellent teacher and a kind-hearted man, of a genial temper and philanthropic spirit. He was an honorable, successful, and honored member of the noble profession to which he devoted his years and his energies.

Mr. Taylor became a member of the American Institute in 1867. His death occurred very suddenly from pneumonia, on the 5th of May, 1879, at the age of sixty-four years.

THOMAS W. VALENTINE.

On the 4th of April of the present year, Thomas W. Valentine, of Brooklyn, N. Y., was suddenly called from earthly scenes, while calling on a member of his school board to consult on matters pertaining to his school duties. Mr. Valentine was a life-long friend of schools and educational progress, and for a quarter of a century a member of this organization, and at the time of his death, and for many years previously, one of its vice-presidents. He was born at Northboro', Mass., Feb. 16, 1818, and was sixty-one years of age at the time of his death.

After receiving the usual district-school advantages of his native town, such as they were in his early years, he was for three years a pupil of Worcester Academy, where he became qualified to teach school. At the age of twenty years he taught a district school in the town of Lancaster, Mass. From the outset he seemed to possess the true spirit of an educator. He was not satisfied with merely teaching his school six hours daily, but at once endeavored to ascertain, suggest, and bring into effective operation such changes as would best promote the general interests of education in the community as well as in the management of his own school. In 1842, after having taught school in several places, Mr. Valentine was placed in charge of a school in Albany, N. Y.

At that time there were no school laws or system of school supervision, but Mr. Valentine's progressive spirit led him to active effort, and with the encouragement and co-operation of the late Francis Dwight and others, he drafted a code of school laws which the Legislature of 1844 passed with but slight modifications. A firm believer in the benefits of united and organized effort, he formed an association of teachers while in Lancaster, and soon after removing to Albany he conceived the idea of a State organization of teachers. As a result of his efforts, the first *State* association of teachers ever formed was organized at Syracuse, N. Y., in July, 1845, or about fifteen years after the formation of this American Institute of Instruction. He was also a leading man in securing the organization of the National Association. In 1853 Mr. Valentine was appointed to the superintendency of the Albany Orphan Asylum, an office he resigned at the end of two years, that he might accept the mastership of a public school in Brooklyn, N. Y., a position which he filled to great acceptance for twenty-four years, when death so suddenly terminated his earthly labors.

In the truest and best sense Mr. Valentine was an active, intelligent, and judicious educator; an efficient and successful teacher; a warm-hearted and faithful friend; an earnest, active, and consistent Christian. A man of decided convictions and outspoken opinions, he was an honest and honorable man, and disposed to exercise charitable feelings toward any who might not see as he saw, or think as he thought. He was a frequent and most welcome attendant on educational conventions, — always ready to do what he could to promote and augment their usefulness. His very presence, with his cheerful countenance and cordial greetings, proved at once an inspiration and a benediction. He was greatly respected and beloved by all associated with him in teaching, as well as by those who became his pupils. His labors and influence in the city in which he passed most of his professional life will long be felt for good, and multitudes will have occasion to hold the name and efforts of Thomas W. Valentine in long and grateful remembrance. Had he lived, how greatly would he have enjoyed meeting with us to-day among these glorious

mountains, whose very presence imparts a spirit of adoration and praise, and may we not believe that his spirit is with us at this time?

“ Can that man be dead
Whose spiritual influence is upon his kind?
He lives in glory ; and his speaking dust
Has more of life than half its breathing moulds.”

CHARLES HAMMOND.

On the 7th of November, 1878, the cause of education was called to suffer a great loss by the death of Charles Hammond, principal of the academy at Monson, Mass. Mr. Hammond was born in Union, Conn., only a few miles from the field of most of his professional life, and also of his death, on the 15th of June, 1813. He was graduated from Yale College in 1839, at the age of twenty-six years, and at once took charge of Monson Academy, where he remained for three years. He resigned his position here that he might pursue a theological course of study at Andover. On completing this, he returned to the preceptorship at Monson, which he held for seven years, when he removed to Groton, Mass., and took charge of Lawrence Academy, a position he filled with a good degree of success for eleven years, when he resigned, and for the third and last time he went to Monson, where he labored successfully for fifteen years, when he was removed by death. Under his faithful training many young men were fitted for vocations of honor and usefulness. It was at Monson Academy, and under Mr. Hammond's tuition, that some of the first Chinese youth in this country were placed for instruction, among whom may be mentioned Yung Wing, who has since gained an enviable reputation as a scholar, a gentleman, and a Christian. Of him Mr. Wing thus writes : —

“I found in Mr. Hammond a strong friend from first to last. I recall him with feelings of admiration as a noble man in every sense of the word. His voice was clear and sonorous, and every tone of it was filled with a deep sympathy, flowing naturally from a great heart. He had a highly cultivated mind, and his thoughts were those of a strong man. His taste for all that is beautiful in art, nature, and literature

was highly cultivated, and he was peculiarly gifted to inspire his pupils with noble aspirations, and to instill into them a love of the truth."

Mr. Hammond was an earnest, consistent, and devoted friend of education, and manifested great interest in educational associations and meetings. He was ever ready, by example as well as with pen and voice, to do what he could to promote and advance the interests of his chosen profession. He was a man of decided opinions and convictions, and not easily moved by every new doctrine, practice, or theory in educational matters. He was slow to abandon old and tried methods of instruction and discipline, and not disturbed by "every wind of doctrine." If he clung somewhat tenaciously to old views and plans, he did so most conscientiously, and worked with a zeal and honesty of purpose which insured him a successful career, and gained for him the confidence and respect of all who knew him.

Mr. Hammond became a member of this association in 1854, and his presence and influence were often felt at its annual meetings. A year ago he was a member of the Necrology Committee, and for several years he was one of the vice-presidents of the American Institute. He was also an active and influential member of the State and local educational associations of Massachusetts, where his thirty-six years of professional life were spent.

In the death of Mr. Hammond, the community has lost an honest man and a valued citizen, and the cause of education one of its oldest and firmest friends and laborers. His upright Christian life day by day, day in and day out, were a constant preparation for the great change that awaited him. Though his voice shall no more be heard in words of warning, counsel, or encouragement, his influence for good will long be felt in the community in which his daily life was a power. Though dead he still lives, and long will live in the memory of those who knew him as a friend, and also in the memory of those who, as pupils, received those lessons of wisdom which were calculated to awaken thought and incite to noble action in life's great conflict.

"The deeds we do, the words we say,
Into the still air they seem to fleet;
We count them ever past;
But they shall last, —
In the dread judgment, they
And we shall meet."

Mr. Tweed said : —

As an old teacher and life-long friend of Stacy Baxter, I wish to emphasize what Mr. Northend has said about him. Everything he has said about him is literally true. Enough cannot be said to give one a full impression of the character of Prof. Baxter. He came the nearest to being a man without guile of any man I was ever acquainted with. As a teacher, he was a genius. He was skilful as a blacksmith; and though when I knew him he had been at his trade but a year, his master then told me that if he wished to go to South Reading with me, where there was an academy, he would relieve him of all obligation, although he was worth more to him than any other man. He was a man of ingenuity, and that ingenuity was manifest in all his teachings, in whatever department he engaged. He was simple in his manner. When a young man I found him in a blacksmith's shop, and he came to me and began to study at South Reading, my own home, and was there associated with me as a schoolmate. Afterward he succeeded me in Medford as a teacher, and then went to Charlestown as a teacher, and afterwards to Boston as teacher in a private school. We were life-long friends. All that has been said by Mr. Northend is true; and more than that, he had a purity and nobleness of character, a perfect freedom from anything like guile or deception, or any wish to outshine anybody else, a perfect simplicity of character that was beautiful, and that gave him a genius for teaching, and a genius to be loved. I think Charlotte Brontë speaks of having a genius to be loved. Prof. Baxter had that.

Mr. A. P. Stone said : —

It was my fortune to make Mr. Hammond's acquaintance many years ago, and enjoy it till his death. I feel that in his

death not only our profession, but the community and the world, have lost a great man. I think Mr. Hammond was not appreciated; he was not understood. You know, Mr. President, and many here know, that in the discussions of the Institute we often measured lances with him; and he left the impression that he was very pugnacious. He was very positive. When his views were controverted he defended them vigorously, and because he believed in them from the bottom of his heart; and if he seemed very anxious to enforce his views, it was because he was under a sense of duty to advocate what he thought to be right. Many times, in meetings like this, we have had sharp discussions, but after the meeting he would come around and grasp our hands, with his great broad mouth open. We all knew what a great broad heart he had. Five years ago I journeyed with him to the far West, and it was during that time that I had developed to me some of the elements of his character that I never before appreciated. He was, as many know, weighed down by affliction. He married late in life, and one child, an only son, died suddenly. He described to me the weight that was bearing him down; he said it seemed as if there were but little to live for. I felt that if there was a great heart it was his. We all knew his great, portly frame; his mind and moral nature were large. I never knew a man who could show more earnestness in face and gesture, and convince you of his earnestness more than he, especially on moral questions. Mr. Hammond was a teacher. Fifteen years ago, as you will remember, he wrote some papers on the teacher's profession, and the matter was then discussed. Mr. Hammond always had the interest of his pupils at heart. There was no selfishness in him. I have never met a man who did not have the most profound respect for Charles Hammond. His heart was large; he loved the work of teaching; he had a personal interest in his pupils, and kept track of them all to the day of his death, and would say such a one was his pupil in '45, or '53, or so on. He would follow them along. But it was not my purpose to make any extended remarks; I feel that we have lost a great, noble man. I enjoyed his friendship while living, and now, sir, I mourn him, dead.

TEACHING AS A PROFESSION.

Edward Conant, State Superintendent of Schools, Vermont, read a paper on this topic. (See Lectures.)

DISCUSSION.

Mr. G. T. Fletcher, of Maine, said : —

The subject of Mr. Conant's paper is one that commends itself to us all. It is an old saying that "As the teacher so is the child." No doubt that is true. While we are making efforts to improve teachers, we must make a demand for them after they are improved. Perhaps a few words here may apply to teachers in other localities. We have in Maine three normal schools, established by the Legislature, and young men attend these schools one or two years, perfect themselves there, and then pledge themselves to teach in the schools of Maine for as long a time as they have been connected with the normal schools. There is no *proviso* there, but there is one back of it, — if some district agent sees fit to employ him for such pay as he deems best. So that while we have been doing something in the way of training teachers, in the absence of any systematic examination there has been no protection for our teachers, after spending time and money in preparing themselves for the work. What is the result? Many enter the normal school with the supposition that a training there will be a passport to the schools of the State, that they will have privileges that those without this training will not have; but they find themselves disappointed. There is no examination which will rule out those who are truly incompetent. It is said that a teacher should make a reputation that will cause a demand for his services. If committees are looking for such teachers it is not those in our State. Every year the district agent is changed, so that if one agent employs a good teacher, and that teacher succeeds in educating that agent into the belief that a teacher's training is worth something, so that the next year the agent will say, "We must have you at any price," very likely the next year that agent will not be elected. There are many cases in

which training does not serve as a protection. There is a demand, not for more training, but for more protection. Our teachers, men and women, must unite as one in demanding this protection. The teachers must join together, and the protection must come. It is not possible for a lawyer, a minister, or a doctor to come before the people and occupy a high position unless he has the indorsement of those who know his ability. In order to be protected we need that supervision which is indicated in the resolutions offered to-day, that our State superintendents shall have authority, and that all our teachers shall unite as one.

Mr. E. S. Morris, of Maine, said : —

I believe teachers should be examined by teachers. If a person studies for any of the professions, he has to be examined by a committee appointed by that profession. Lawyers examine candidates for the bar. When this examination is through, he has his certificate, and has a right to practise throughout the State. Physicians are examined by physicians, so with the theological profession; and why should not teachers be examined by teachers? My duty has been in the extreme northern part of the State. I have been receiving returns, and I find that some of the school committees have signed their returns with a cross. And that body by law is the body to examine teachers. Pray tell me what value can be attached to a certificate given by such a body as that? I do insist upon it that our New England States should have a different method of examining teachers and giving certificates. I heartily indorse all that the gentleman has said with respect to that matter, that all teachers should be licensed by an examining board composed of teachers themselves.

EDUCATIONAL JOURNALISM.

A paper on this subject was read by C. C. Rounds, of Maine. (See Lectures.)

DISCUSSION.

Mr. T. W. Bicknell, of Massachusetts, said : —

If I had come here and heard this address only, I should have been well repaid for coming. It shows that Mr. Rounds is not only fitted for the normal school, but for coming journalism. The journalism described does not exist in the present; and the reasons why it does not are that it cannot. We have but just opened the way for it. The old journals, whose work was valuable in their day, have passed out of existence, and we have now in their place the journal which comes more frequently, bringing larger and more varied discussions, and fresher information and material for our consideration. But the great difficulty with all our journals lies in the fact that our profession does not interest itself in their support. If I should tell you how many subscribers we have of those intelligent teachers and families throughout New England and other places who ought to be supporters of our papers, I am sure you would be surprised. I think I should be surprised myself, in looking over my subscription list for New England, to find how few take our journal or any other. Now of course when we come to journalism in its highest standards, we must have a large amount of funds to carry it on. The New York "Tribune" and "Herald" are supported only by the demand of the people, who furnish the sinews of war for those papers. School journalism has reached a state where it ought not to be called upon to support itself. Can the teachers who come here reasonably demand of us that we furnish bricks, clay, straw, everything? Now in our office at Boston, we cannot afford to keep up such a staff of writers as that of the New York "Tribune," but many demand it. If they will furnish the money we will be glad to do it. If teachers throughout the country would take an interest in it, THE JOURNAL would, in a single year, rise to a position unequalled in the world. We have the experience for it. If we could be as generously supported as the legal, medical, or political world sustains their papers, if we could receive one half the support that those journals receive from their various constituencies,

educational journalism would stand head and shoulders above anything in the world. Our papers ought not to go begging teachers to take them. That day ought to have been passed long ago. It should be the desire of every teacher to sustain these journals. Not only should they not require asking, but they should come up to their support as soon as they can appreciate these guides to professional work. This is the main point I wanted to present, — that if the teachers of the country would come to the support of one third of its educational journals, we could assert ourselves as never before. When all our friends do that, we shall have the best journalism in the world. I don't come begging for the NEW ENGLAND JOURNAL, nor for any journal. No journal ought to do that. I simply present this argument in favor of all journals. Every teacher should take some journal, and if possible, take the best. And when that best has been secured, then everything ought to be done to support it: first, by hearty good-will; secondly, by sending contributions to it; thirdly, by giving to it all your experience, and adding to its influence by helping others to a knowledge of it who are not already interested in this matter, and by creating a public interest in it.

Mr. Northend, of Connecticut, said : —

Teachers are not faithful to themselves nor to their schools in neglecting to support educational journals. We have an educational journal worthy of support. It is not perfect, but I do claim that while a teacher may not find every article suited to his or her wants, every live teacher will find something worthy of praise, something that meets his wants. It is claimed, and justly too, that our compensation is so small we cannot afford to take an educational journal. My friends, no teacher can afford to do without a journal of this kind. When teachers do their duty in this respect, it will awaken people in the community to give to members of the profession those privileges they ought to have. No one has a right to complain of educational journals till he has done what he can to make them what they ought to be. I find

that those who complain are those who do not pay one cent or contribute one line to an educational journal.

Mr. Harper, of Maine, said : —

It is said that teachers do not support their journals as people in other professions support theirs. I think that is true. But what is the cause of it? Is it because those in the teachers' profession are lower as human beings than people in other professions? Is it because they are less desirous of improvement? Not at all. They are like other folks, and other folks are like them. When we see such an entire absence of the professional spirit among teachers, it seems difficult to account for it; but when we consider the facts, it seems no wonder that teachers do no better. I know a lady in Maine who taught a village school for two dollars a week; and she was one of the best and brightest of our students. Not in a country school, but in a village, not a hundred miles from the place where she acted as assistant, and had from forty to one hundred children under her charge. I say that even that teacher should have an educational journal, but when we blame them we are wrong.

The morning session was closed by recitations by Prof. Hibbard.

EVENING SESSION.

President Carleton said : —

There is in one of these mountain hotels, now lying near death, one who took a great interest in our meetings last year, and who did much to promote their success. From his bed of suffering, a day or two since, he dictated a brief letter to us, which I will now read : —

JULY 9, 1879.

MR. I. N. CARLETON,

President of the American Institute : —

God bless you all, officers and teachers. May none of you want for kindness and attention by this great affliction of mine. We have met on earth, — may we meet in heaven.

O. F. BARRON.

Mr. Northend, of Connecticut, said : —

I well remember, as do many others, Mr. Barron's kindness to us last year, and also two years ago, in coming over to Montpelier. He was as kind-hearted a man as ever lived, and was ever ready to promote the happiness of others. I learn through his daughter to-day that for many weeks he has not been able to see any but his nearest friends. It is doubtful whether he recovers. I feel that it is due from this institute to take some notice of this letter.

Mr. Northend then offered resolutions expressing sympathy for Mr. Barron, and gratitude for his efforts in behalf of the Institute and his labors for the comfort and welfare of its members.

Mr. T. W. Bicknell said : —

I second these resolutions, and in doing so, would express my deep sympathy with Mr. Barron, and the debt of gratitude we all owe to him for the fact that we are here to-night. Mr. Barron came to our meeting in Montpelier two years ago. It was suggested that the Institute come here the next year. It was not supposed it would be possible to do so. But Mr. Barron asked several of the officers to come over and see about it. He said he would do all he could to make the members comfortable. And from that invitation sprang the meeting here last year; and no more indefatigable worker has been found to aid us. We must remember that somebody has done a great deal to carry out these plans and make these hotels so comfortable, and prices so low, so that not only six hundred people, but six times that, are accommodated. It was a grand move, and we are greatly indebted to Mr. Barron for this meeting. I most heartily second these resolutions.

Mr. F. F. Barrows, of Hartford, said : —

The meetings of this Institute among these grand old mountains have been a great benediction to me, and I desire to express my personal gratification. I have no doubt I shall express the sentiment of all present when I say that I hope

the wish expressed in Mr. Barron's letter may be fulfilled, and that we shall be permitted to meet him in a world transcendently more beautiful than even this beautiful world.

The resolutions were unanimously adopted.

Mr. C. C. Rounds said : —

I am in hearty accord with the resolutions, but it seems as if a formal resolution does not do all we ought to do. I move that the president be appointed to write to Mr. Barron. I remember the way in which I was received by Mr. Barron on my way to Montpelier. My acquaintance with him has all been in connection with the Institute. It seems as if he must have been a teacher himself from the interest he took in the Institute. It seems to me that this demands a personal communication from the president as representing each member of this Institute. I move that the president be requested to communicate personally with Mr. Barron as representing this Institute.

The motion of Mr. Rounds was adopted.

Mrs. West sang "Angels ever bright and fair."
Prof. Hibbard read a selection entitled "Connor."

The president read a letter from Hon. S. S. Cox, regretting his inability to accept the invitation tendered him to be present and address the Institute.

REMARKS BY GEN. JOHN EATON, U. S. COMMISSIONER OF
EDUCATION.

Mr. Chairman, Ladies and Gentlemen, — I believe it was fair on my part to think that I was excused from any address this evening. In the first place, your chairman will bear me out in the statement that I did not consent to prepare an address on this occasion, that my effort was solely aimed at helping to make these meetings most successful. Indeed, I am reluctant to appear before you now even for a few moments; yet I assure you it is not because I have no sympathy with you, not because I have nothing it might be agreeable to communicate under other circumstances when

it might seem fitting. Nay, there is much that might be agreeably presented to you.

My work is on the generalization of education. The other day, crossing with other passengers over that magnificent bridge at St. Louis without a jar, — trains meeting, and everybody admiring, — I thought, This was not always so. I remember well when there were objections and sneers in regard to Capt. Eads's scheme. Now, I thought, this illustrates education and many other things, in which to bear a part I have been called. Why, just see, in this bridge, what human skill and science have accomplished! Here is this wide channel, here is this furious current, bearing itself down and sweeping away every resistance that man can put before it. Yet it must be conquered; and workmen are put into the midst of it, and there, out of sight and protected, they must work on for months and years, while all the time people are laughing at Eads's "folly," and blaming him for exposing these men to such danger and terror. By and by a change comes. First, perhaps a scientific engineer from Europe comes and examines the progress of the work out of sight, and pronounces it good. Then another and another; so on it goes, till by and by it is completed, and the first train passes over it. Then the people settle down to the fact, and it passes into every-day life; so, I bethought me, it may be in this work of education. There is so much done out of sight; so much in resistance to the tide, the terrible current. The under-tow bears on to fatal results, but the work must proceed; it must be done out of sight. But if — ah, if! — in the providence of God this work may be at last perfected, so that over it shall pass the settled convictions, and satisfactory results be obtained, then shall come the plaudits for the work now so little understood.

Yes, there is much that might be said of this place, this building, this letter from the sick man, — how suggestive of the relations held by the teacher. Why, your profession in its relations with all other occupations is causative. Here are some of the results. Shall not the teacher make use of these relations? Shall he stand apart from other interests, and abstract himself, or come warmly into sympathy with

them and gather benefits, not only to himself, but to the young under his charge? See the benefits we have gathered here. How many of you teachers, ladies and gentlemen, out of your meagre earnings could have borne the expense of coming here at the ordinary rates of travel? How did you secure it now? Was it by the work of two or three, or was it the combined efforts of a large number of persons that warranted the proprietors of these routes of travel, and of these hotels, in reducing their rates and putting it within your moderate means to come and get what you could not get in any other way? And then the benefits of this intercourse I cannot describe, — how you are enlarged; how you compare each with the other; and how you go out with the crust broken, and sometimes, it is true, a little crestfallen in the comparison, but benefited after all. Enlarged, quickened, stimulated, sometimes humiliated, but all benefited. And that intense individualism, cultivated in us as citizens, but more especially as teachers, that school-master's conceit we have all heard of, this is taken out of us somewhat, by finding in personal conversation, as well as debates, that other methods are sometimes better than our own. We gather new truths all about us, and stimulus for the conflict beyond. And another benefit of this combined action, and one that I wish to emphasize, and one that I rejoice in, is this social intercourse, this enjoying together of beautiful sights which carry you beyond yourselves and recreate you, yes, *re-create* you and send you back to your work with new strength. I cannot tell you how much I have been benefited here by personal intercourse.

I remember Charles Hammond on occasions like this; I was able to draw thoughts from him that have benefited me, and through me others. I remember him in his largeness of soul and his devotion to his work. You know how it has been objected that teaching was narrowing in tendency. But what have you had here? A series of subjects carrying you out of yourselves. There was Dr. Barnard's able essay on neglected children, children outside of the family and the school. Alas! how often teachers forget children outside of the school, children that grow up in that crime and poverty that eat to

the heart of the body politic, the results of which find their way into the most cultured, thrifty, and religious homes in the community. And when you heard the able essay upon oral instruction, and the one upon the place of the classics, what an enlargement of general principles it gave; and when the subject of journalism was considered, and the profession of the teacher, and the other important subjects presented, your mind was led up to ideas that made you ask how you could attain the greatest degree of perfection in your calling. All these things open up larger views; they expand the mind; and it is only by this combination of efforts that the best results can be accomplished. When thinking of the more than 300,000 persons actively participating in teaching, I ask myself, Shall the institutions of liberty fail, or are they to improve and grow in all their benefits to society, and perpetuate here for coming generations the blessings our fathers have bestowed upon us?

In my work at the bureau in Washington I often receive calls from the educators of the land. A young teacher visited the office the other day. "Why," said he, "what is this? Is this the Bureau?" I replied, "I am put here as a commissioner; there are some clerks, and there is a library up stairs." "A library?" he says; "why, I was talking with the secretary of our board, and he said he thought it singular that this great profession has no literature." "No literature?" said I; "walk up stairs with me." We went up. "Why," said he, "I had no idea there were so many books. Do these all relate to education?" "Yes," I replied. We went into another room, and into another. "These four rooms," I said, "contain works relating to education in America; across the hall are two rooms upon foreign education." "Ah!" he says, "I am thankful for this; it has given me a new conception of the profession."

I thank you for your attention, and I thank you again and again and always for your co-operation in the labors I have to perform.

Brief speeches in a pleasant vein were made by Messrs. Northend, Bicknell, Stone, and Kneeland. A

piano solo by Mr. S. L. Studley, readings by Prof. Hibbard, and singing by Mrs. West followed, after which, with the singing of the doxology, "Praise God, from whom all blessings flow," the exercises of the fiftieth annual meeting closed.

LECTURES.



DELIVERED BEFORE THE AMERICAN INSTITUTE
OF INSTRUCTION.

LECTURE I.

ORAL TEACHING.

By HON. J. W. DICKINSON,

SECRETARY MASSACHUSETTS STATE BOARD OF EDUCATION.

LADIES AND GENTLEMEN : That we may think together I ask permission to illustrate some terms I shall use. The definitions I shall give may not be such as you would give. It appears to me that much of this discussion on oral teaching comes from the fact that we do not understand the terms we use in the same sense. So I would like to illustrate. We find that when we think, we know we think. When we feel, we know we feel. When we choose, we know of our choosing. Thinking, choosing, and feeling are called mental states. That attribute of the mind which enables us to know is called consciousness. It enables us to know of our mental states. When an object like this (a piece of chalk) is brought into my presence, I may think it has color, form, and weight. Now, before I think of this, I must be conscious of color, form, and weight. There is, then, an immediate object of our consciousness when we think. An immediate object of consciousness is called an idea. We may know what our ideas are by knowing the immediate objects of our consciousness, and from the fact that they are always called by single names. I have had the idea of white color in my mind many times, until it has

become a familiar idea. If an object having a white color is presented to me, its color awakens an idea. I compare the idea of color excited by the object with my familiar idea of white, and find they agree. I can then affirm whiteness of the object. This act of comparison is called a thought. By thought is meant an act of comparison. If I examine my idea of white color with that awakened by the object, I find the two agree. I am thus conscious of the agreement of ideas. If they disagree, I am conscious of a disagreement. Such consciousness is called knowledge. By knowledge, is meant a consciousness of the agreement or disagreement of ideas and thoughts. I am now knowing of this thing. This is the object of knowledge. We have two kinds of objects of knowledge, and this is one. It is external to my mind and may be called an objective object. But virtue or philanthropy, or any of the sciences, are held in the mind only as objects of thought. These are called subjective. We have, therefore, two kinds of objects, objective and subjective. We make mistakes sometimes in forgetting that we have two kinds of objects, material and mental. One is objective and one is subjective. There may be presented to the mind for its thinking either objects or subjects. Now, although the mind is the cause of its own activity, it can never think unless some object or subject of thought is presented. These objects may, therefore, be called occasions for knowledge. When we commence a study like algebra or grammar, we think of those subjects with difficulty, but after a time we think with facility. We acquire facility in thinking by thinking. The facility acquired is culture. Culture is the acquired facility for perform-

ing an act by performing it many times. To present an object or subject, is to make them hold such relations to the mind as to affect the mind in any way. Presenting occasions to the mind for such activity as will produce knowledge and culture is teaching. The teacher is not expected or desired to perform the mental labor that belongs to the pupil to perform, but simply to present those occasions which will lead the learner to think the thoughts the teacher desires him to think. We have two kinds of teaching. If I wish to present the color of this piece of chalk to a pupil, I present it to his senses and he knows the color. If I hold it before him and say nothing, he does not know what thoughts I wish him to have. I ask him what he can say of the color of this. I have presented the object that has the color, which is the only occasion for ideas of color, and have directed his mind by words of my own to think this thought of the object. This is called oral teaching,—oral and objective, because the object is presented to the pupil's attention, and by words his mind is directed to the points we want to bring out. We will call it simply oral teaching. It consists in presenting objects with such words as are necessary to lead the pupil to think. Written teaching consists in presenting to the pupil a written or spoken description of an object. That is, instead of having the objects themselves, we have the language by which the objects may be expressed. Such teaching is called written teaching.

We are now ready to compare written with oral teaching. If my views of teaching are correct, there is no other teaching than oral teaching. If the pupil has acquired ideas and attached the ideas to the names

of them, so that whenever the names are presented to him they call to his mind those ideas, then language may be used, but remember that ideas must first be awakened. And there is no way to awaken ideas for the first time except by presenting to the mind the objects or subjects of them. We find that whenever words are used as first occasions for ideas no ideas at all are awakened, or those are awakened which do not pertain to the object or subject taught.

I remember a classmate of mine who went through school with me. I don't know that he ever learned to recite a lesson through his whole course. He had always obtained help from his classmates. But on his last examination the teacher placed him in the middle of the floor, distant from any help. He was in great distress. The teacher asked him this question: "What do you understand by simple apprehension?" He looked about for help, but there was none, so he fell back upon his native genius. He gave an account of what existed in his own mind. He said he believed there was a dispute among the old philosophers upon this subject, but that he had forgotten precisely what conclusion they had arrived at. He remembered that upon many questions referring to the phenomena of the mind philosophers had differed, and he thought it might as well be with reference to this subject as any other. Now I think he had obtained some discipline in his school, but he had no definite knowledge. And that is true with many.

Oral teaching presents right occasions for knowledge. It requires the teacher to bring the real thing to be studied. How the mind longs to get hold of the real things in its study, instead of groping about

for knowledge of them through the medium of unknown language !

Thirdly, oral teaching leads to culture. Many pupils on leaving school do not have their minds well trained, because they have not had them brought into contact with the things they were to study. We desire to have this done. I have said that culture is facility in doing that which we wish to have the power of doing. If we wish to acquire culture we must commence the acquisition at school. An exclusive use of words or language will fail to produce either a method of work or culture. One of the most important ends to secure by study is a good method. If a pupil enters the primary school, passes up through all the grades, and graduates with no other acquisition except a knowledge of facts, his time has not been well spent.

We must abandon the attempt to teach much knowledge in the schools, but teach in such a way what is taught, that the learner will acquire a method of work, and a training to use the method. Teach the pupil so that when he graduates he can pursue his investigations alone.

We must keep in mind what is meant by objective and subjective objects of thoughts, then oral objective of teaching will not have that exclusively material meaning it now has.

I wish now to show a manner of applying the oral method of teaching: first, to an object; second, to a subject of study. Take, for example, a piece of quartz.

I wish my pupils to learn those qualities by which this mineral may in the future be classified. So I teach first, its hardness, by placing a specimen of quartz in the hands of the learner, and leading him to apply those

tests to the mineral which will give him an experience of its hardness. This test may be made by scratching the substance, or by applying it to glass. In both cases the learner will be conscious of muscular resistance, and the amount of muscular resistance experienced will be the amount of hardness itself which the mineral possesses. While the pupil is conscious of the hardness I can give it a name, or I can denote its amount by some number, so that afterward a thought of the number may reproduce a thought of the hardness. Now when he passes into the fields, to search for quartz, he is in possession of a knowledge of one mark by which he can distinguish this object from all other objects. But suppose, on the contrary, he opens a book, and reads from it that the hardness of quartz is seven. Could such knowledge as he would acquire in this way guide him to quartz? The experience necessary to furnish him with data for comparison is wanting, and he is unable to compare.

The knowledge he has acquired in learning a verbal statement of the amount of hardness quartz possesses, is no knowledge of the thing itself. All the distinguishing qualities that set quartz apart from other minerals are to be taught in the same way in which we have shown hardness should be taught. When the pupil, trained in this way, goes up into the scientific school he will have elementary knowledge enough to enable him to classify quartz. Now objects may be put aside, and the mind led to turn itself back upon its elementary knowledge of the qualities of quartz, found by study in the elementary schools, and classify them into that natural division called quartz.

By such elementary teaching as indicated, the pupil

is prepared to classify. What has been said of teaching one natural object may be said of all objects that can be presented to the senses.

A guide to elementary teaching may be found in a knowledge of what scientific teaching requires.

The elementary teacher should constantly keep in mind the wants of the scientific pupil.

In the scientific school the pupil is to classify. At first he is to classify into the most general divisions. To prepare the elementary pupil for this, he must be taught those marks or qualities first into which the most general divisions are to be made. So on in order from the marks of branches he will proceed to those classes, orders, families, genera, down to those by which species are to be classified. If the primary teacher knows the plan of classification in any branch of study, he will know a plan of elementary teaching for that classification.

I believe there is little or no purely scientific teaching in the schools of the country, because the pupils are not prepared for it. But if they could have systematic training in the elementary schools, they could enter upon scientific study as soon as they enter the scientific schools.

We will now show how to teach a subject by the oral objective method. Let the subject be "judgment." First, lead the pupil to judge. This is done by leading him to affirm or deny something of some other thing. As he affirms or denies, these acts are as literally the objects of his thoughts as a material thing can be; while they are, call the power by whose activity the acts were called into existence, judgment. Judgment may now be defined by giving an account of the

acts which it performs. In this way, a subject may be as literally taught by the oral method as can an object.

We can teach morals, first, by examples for facts, and then from the facts may be obtained those general truths which constitute our moral precepts

Subjects may be presented objectively in as literal a manner as can objects.

Oral teaching is not well understood in this country. It is so frequently abused that those who know all they ever learn of it from the imperfect illustrations they see, condemn it.

There are dangers that the oral teacher is liable to fall into. He may talk too much and do too much for the pupil.

As little as possible should be done by the teacher, just enough to enable the pupil to do all for himself.

The teacher who is simply directing the pupil's mind should conceal himself as much as possible, and leave the pupil to an independent exercise of his own power.

Teachers sometimes attempt to pour knowledge into the minds of their pupils. My teacher used to say, for instance, "What is the name of the longest river in the United States? Mi." Thus I knew that it was either Mississippi or Missouri. If I happened to give the name "Mississippi" first, and that was not right, I knew at once that "Missouri" was the name wanted.

The great labor of the objective teacher is, first, to prepare himself with materials for his work; second, to prepare his topics to be taught and learned; third, to teach so as to require the pupil to learn for himself.

The true objects to present for physical knowledge are physical things; for mental knowledge are states of

the mind. The topics taught should be of such a kind and so arranged as to lead the mind of the pupil to acquire knowledge related in all its parts by a logical arrangement.

The pupil need not always know of this logical arrangement, but it should exist, and then he can reproduce what he has obtained by study, and he can reproduce it without effort.

If we teach objects and subjects by the oral method logically, all the pupil is required to do in giving definitions is to repeat what has been taught in the order of the teaching.

I have had great experience in this kind of teaching, and I know that if rightly conducted, the knowledge communicated will never be lost, and the mind of the taught will surely acquire such training as to enable it to act with all the energy it is capable of exerting.

Should text-books be used by the oral teacher? It is said that oral teaching rejects books.

I suppose there never were more text-books used in Boston than now ; that is, Boston since she has changed somewhat to the oral method of teaching has not discarded text-books, but by a more proper training of the pupils, they have been prepared to make a correct use of books. Oral teaching prepares for the use of books. Books are no longer to be committed to memory, but they serve to call the mind of the pupil back to a fresh study of the objects described in the books. Books are no longer to be considered the original source of a knowledge of things. After oral teaching has done its work, then use books as has been illustrated, to enable the pupil to reproduce knowledge already obtained, and to excite to further study for more knowledge.

LECTURE II.

THE EDUCATION OF GIRLS, AS CONNECTED WITH THEIR GROWTH AND PHYSICAL DEVELOPMENT.

By **NATHAN ALLEN, M. D., LL. D.,**

LOWELL, MASS.

THE question may be asked, What more can be said that is new or important upon female education? Suppose the same question had been asked twenty-five years ago, would not the changes since that period present a most satisfactory answer? As one contemplates the great improvements made during these years, he is surprised that educators were content to tolerate the state of things that once existed; so will the next generation, when still greater and more important changes shall have been introduced, look back upon this, and wonder that it was so well satisfied with its own methods.

Twenty-five years ago, very little attention was paid to the matter of health or to the claims of the body, and as to "the higher education of woman" or the "coeducation" of the sexes, these questions had received scarcely any consideration. In taking a survey of the past, we see that many improvements have been made; but in forecasting the future, it is not so easy to realize that still greater changes are in store.

It may require time for their development and completion, but they are sure to come, as discoveries in science and the application of new principles never go backward.

CHANGES IN EDUCATION.

There must be, in the very nature of things, radical changes in the whole system of education. As it is now conducted, the whole process is in a great measure empirical, experimental, not being based strictly upon either the laws of the body or of the mind. The old systems of metaphysics, which, as presenting anything like a correct system of mental philosophy, are discarded in most of the colleges and universities of the present day, still prevail as guides in almost every department of elementary instruction. How can we properly cultivate the *mind*, train and discipline its faculties, and educate them to their highest extent, until we understand more correctly and definitely what these faculties are, and the laws that govern them? We need here a true system of mental science based upon physiology, upon the functions of the brain and the laws that govern the physical system; and until we have such a system of mental science, all education must be more or less partial, imperfect, and empirical.

That there are serious evils and defects in the present methods of teaching is very evident from a growing dissatisfaction with our public-school system, among the best educators and most sagacious writers in our country. The conviction in many minds is becoming stronger and stronger every year that, considering the amount of time, labor, and expense bestowed upon our schools, the fruits do not correspond with the immense

outlay, or in other words, they fail too frequently in *practical* results. Nowhere is this failure more striking and its effects so injurious as in the education of girls. The most marked feature in this failure, or injury, growing out of the present modes of teaching, is its effects upon health and the physical system. It is found that great numbers break down while engaged in study, others soon after completing their education, and many others still become physically disabled for discharging the duties, labors, and responsibilities of life. Such results constitute evils of no small magnitude.

It is true these evils do not originate wholly in the school, and in many instances it is not at all responsible; they start in the family, and grow out of the present state of society; and while it may be difficult to point out all the sources, an important cause, the most fruitful agency, is connected with the system of education. The evil is not confined, however, to the school or the seminary, but extends, more or less, to the general views and practices on education as adopted and carried on by parents, school committees, and boards of education.

Fifty years ago or more, scarcely any attention was paid in education to the physical system; the body was not recognized as of much account in mental improvement. But as the principles of physiology became better understood in their practical applications, it was found that they sustained most intimate relations to education; and the more thoroughly this science is understood, the more profoundly one is impressed with the importance of observing the laws of the physical system in their connection with mental culture.

Great advances have been made in the physical

sciences, and in the application of sanitary law to prevention of disease, to the preservation of health, and to human welfare ; but in every stage and department of education, the importance of physical development in its relation to mental culture is altogether underrated. When it becomes fully understood that education, in all its manifold parts and applications, is dependent upon the brain, and that the functions of this organ are very dependent upon the condition and development of the body, then it will be seen that there is a *right* and a *wrong* way in all attempts at mental improvement, and that, for the greatest success, an observance of physical laws is indispensable.

The term "education," used in its broadest sense, is not confined to the intellect, to the emotions, or the moral sense, but belongs equally to the physical system, to the whole being, mind and body. Such is their relation and the laws that govern them, that the culture of the former cannot be properly or successfully carried on without that of the latter.

Physiology is a modern science, and its principles, in their practical application, may very justly be said to be in their infancy. In process of time, they are destined to have a powerful influence, not only upon human welfare generally, but especially upon education. As it is now conducted, much labor and study are wasted or lost ; it is one-sided, or bounded by narrow limits ; it is not made practical or useful ; it is not adapted to the particular talents of the individual, or to develop harmoniously his faculties ; it does not enlist and direct all the forces of the human system in a manner to secure the highest physical and mental results. To do this, the laws of health must be

observed ; the relations of the body and all its parts, to the brain, must be understood, and this must be commenced in childhood, and followed closely through all the years of youth. Some of the greatest failures and mistakes in education commence in early life. This arises from an almost total neglect of the laws that pertain to the growth and development of the body, which neglect is not discovered till too late for remedy.

FIXED PRINCIPLES NEEDED.

One of the chief causes of failure in education is the want of fixed principles as guides. In all matters appertaining to the welfare of the mind or the body, we should always have some definite principles to direct and guide us. The Creator has established such laws in the human system for the proper development of every faculty of the mind, as well as organ in the body. It is the province of physiology to unfold the nature and character of those laws, in their various applications. There is one general law in this science which should be better understood. In the whole process of education, a most important change is constantly taking place in the physical system, which is but little noticed, viz., *growth*. There is not only the regular law of supply and waste going on to support life, but, in addition, nature demands that provisions should be made for the increase or growth of every part of the body. This law commences its operations with life, and continues to adult age, though the changes which nature makes at particular periods are greater than at some others. An observance of this law of growth is of the highest importance in the whole course of education.

NORMAL STANDARD.

But before noticing these laws and changes, let us inquire if nature has not established some general or normal standard to which we may always appeal. In considering any subject, there are great advantages in having before us some perfect model or pattern, by which every part can be tested. In the organic world, we believe, there is everywhere such a standard, though it may be difficult to find perfect examples of it.

In physiology there is a *normal* standard, and it consists in *perfection of structure and function*; that is, that every organ should be sound in formation, and capable of performing its legitimate office. Thus in the human body, all its parts must be sound and well developed, and each must perform its own proper function, without interfering with that of others. The human body may be compared to a complicated machine, where every part has a specific work to do. Hence will be seen at once the importance of having the balance or harmony kept up, so that the "wear and tear" shall come equally upon every part. The wisdom of such construction and operation is very obvious.

The most thorough researches into both the sciences of anatomy and physiology demonstrate that there is such a standard of organization; and upon this foundation is based the law of health and life. It is a *normal* standard, a universal law, and the nearer all parts of the body can approximate toward it, the greater will be found the aggregate amount of health, and the longest human life. In the growth and changes, therefore, that take place in the body, it is of

the highest importance that this standard or law should be kept constantly in view. Among the Greeks and Romans, where physical organization was made of great account, we find models set forth corresponding to this standard. In the Apollo Belvidere and the Venus de Medici, we find the most complete illustrations of development in all parts of the body. Experience and observation taught the Greeks and Romans that such standards of organization, of all others, were the most desirable ; but the principles of physiology not only demonstrate the fact, but explain the reasons for it, and the modes by which it is obtained.

The organization here described furnishes the foundation not only for the laws of health and longevity, but presents the true standard of beauty, where symmetry, proportion, figure, and outline are exhibited in their highest perfection. There is still another principle involved in this same organization, more important than either or all of the others, — that is, the law of multiplication and continuance of the race. A volume might be written upon each of these topics, and the object of making these general statements here is more particularly to show what may be the effect in education of deviations from this *normal* standard of organization. It is true we shall find no perfect examples, only approximations towards them, composed of an almost endless variety and character. If these deviations from the normal standard are very marked, they are attended with more or less unfavorable results. This depends very much upon what organ or class of organs are included in the deviation.

PHYSICAL ORGANIZATION.

It may be said we cannot change the physical system materially, that this is beyond the power of individual choice or agency. To a certain extent, this is true. There is a fixed type, or there are marked features in the organization of some races, like those of the Jews, which continue for ages. It is so, though to a much less extent, in some families, where their leading characteristics are transmitted for generations. But in both these instances, the natural relations are generally confined to the same classes, for just in proportion as this relation extends beyond kinship or race, will there be changes in the sameness of organization.

While the principal features grow out of the laws of inheritance, radical changes must require two or three generations; still, many important changes do take place in the life of an individual. If the laws of growth and change were better understood and observed, it would be found that we have far greater power over the physical system in *development* than is generally supposed.

It is an established fact, that every part of the body is constantly changing, so that in the course of seven years it is estimated that the whole system is entirely changed, not a particle of the same matter remaining at the end of that time. And although these changes are carried on according to certain fixed laws in chemistry and physiology, we have the power, to some extent, of directing and modifying their results. The two principal agents in effecting these results are nutrition and exercise. Careful examination shows that these two

great agencies are controlled very much by our own choice and power.

GROWTH OF THE BODY.

The human body is made up of infinitely small cells, and the various changes it undergoes are very properly called cellular development. The principle of "waste and supply" is here admirably brought into exercise. While nutrition from food and air is continually furnishing the means, a set of vessels is provided to carry off all waste matter. These vessels or carriers are called the capillary system, and though at times they are exceedingly busy, yet they never cease their work night or day.

The cells composing the primary elements of the body consist of different orders, and vary in form and size. The bones, muscles, ligaments, nerves, brain, etc., are all built up by cells, and are nourished by cells, formed from food, and absorption outside through the lungs and the skin. Different kinds of food are, to a certain extent, designed to make a particular class of cells; for instance, some form muscular fibre; others, nerve tissue; and others, adipose matter. The capillary system, which is the agent in these changes in cell-life, is composed of exceedingly small blood-vessels, and is distributed everywhere through the body. They act as connecting links between supply and waste, as messengers carrying nutritious cells, and removing those that are waste and decaying. In the whole process of digestion they act as agents, after the food has passed through certain changes, in carrying the nutrition to its place of destination, and then of removing the waste matter; they form an important connection between

the arteries and veins, exchanging pure blood for that which has become impure, extending to the purification of blood through the lungs.

Without entering too minutely into physiological questions, our object is to show briefly what are some of the laws of growth and change in the human system, and that these are, in a great measure, dependent upon human agency. While we may not at once be able to understand all the points or principles involved in the subject, enough may be seen to show how important they are, and that they should be far better understood.

While we cannot draw the line between the kinds of food as to their exact adaptation to build up this or that tissue, it is well understood there is a great difference, and that selections can be made with special reference to developing the muscles, or strengthening the nervous system, or increasing the lymphatic temperament. If all children possessed the same organization throughout, the same kinds of nourishment would be adapted to all alike ; but as there are exceptions to this general rule, greater care should be exercised in such cases. The time will come when this whole subject will be better understood, and the laws of nutrition, as applied to all cases, will be more carefully observed.

Connected with the laws of growth and support, the prompt removal of all waste matter, or the secretions, is highly important. Unless it is done, this effete or decaying matter poisons the parts surrounding it, or re-enters the circulation, and becomes the cause of much disease. Nature has made ample provision for this work, but its operations are often thwarted by human agency. For illustration, we may refer to the importance of cleanliness of the skin, or to the normal action

of the alimentary canal. Another illustration may be given, in attending to the healthy action of the lungs, that they be not only supplied with an abundance of pure air, but that the impurities generated by internal action should not be retained by compression, or want of exercise, and when once expelled, the smallest particles should never be allowed, if possible, to re-enter the lungs again. In the early stages of education, when the individual has no knowledge on the subject, and is entirely dependent upon a parent or teacher for guidance, it is highly important that these rules be applied, for they are then most needed and will do the greatest good.

In providing suitable food for the body, many things must be taken into account, and this is far more important to young persons while growing than to those who have reached adult life. Attention should be given to the demands of nature in the adaptation of food, that all parts of the body may receive those kinds most appropriate for their growth and development. Besides it is not the mere kind or quality alone, but there must not be deficiency in quantity, neither should it be taken in excess. Then there is the preparation, the cooking part, which is vastly more important in the case of the young than is generally considered. The health, growth, and constitution of children depend greatly upon the proper preparation of their food. The manner and times of taking food should receive careful attention; the food should be taken slowly and be well masticated; should be consumed at regular set times, — at intervals of five or six hours, and nearly in equal portions, unless at the last meal, which should be light, — care being taken to preserve always a good appetite.

In the application of the principles here presented, there are several important considerations. From the age of five to twenty the growth and development of the body should receive special attention, whereas the practice at the present day is reversed. In the matter of education, the mind absorbs all attention, but the claims and interests of the body are regarded as of too little consequence. What are the teachings of physiology upon this subject? The principles of this science, and the lessons taught by experience, should be the guides. It is very obvious that the mind, or the brain, upon which all mental manifestations are dependent, embracing so small a portion of the physical system, should not receive all the attention. From the age of five to twenty, nature provides especially for the growth of the body, so that all parts of it should obtain at twenty, or soon after, a healthy and complete development. After this period, there is no natural growth of the body as a whole, but changes may occur in different organs, and especially the brain. During all these years, the main object of nature in the organization seems to be preparatory work, — growth, training, development, strength, etc.

From this general law, we should infer that no one part of the body should be exercised at the expense of other parts, so as to produce a premature development. It is clear that if the exercise is carried beyond the laws that regulate a healthy growth, and interferes with the normal development of other parts of the body, the result must be exceedingly injurious. Physiology teaches *unmistakably* that the normal standard is based upon a sound, well-balanced organization, and the nearer is the approximation, in the development of all

the organs of the body, the larger the amount of health, the longer the life, and the greater the human achievement and happiness.

THE TEMPERAMENTS.

This principle may be illustrated by the doctrine of temperaments. For the sake of convenience, we take the most simple division, viz., 1. The *Muscular*, or motive, made up of the ligaments, etc., and muscles generally. 2. The *Sanguine*, including the heart, lungs, arteries, veins, etc. 3. The *Lymphatic*, composed of the lymphatics, absorbents, and glandular system. And 4. The *Nervous*, including the brain and nerves throughout the body.

Now, the more evenly balanced these several temperaments are, the more healthy and perfect is the organization. Each organ is better able to perform its own specific duty, and, of course, there are greater harmony and less friction in their operations. In such an organization there is far less chance for weakness or disease to obtain a foothold.

If there were slight deviations in the balance of the temperaments, it would make but little difference in the health or strength of an individual. But if any one of these temperaments becomes altogether predominant, it will be accompanied with serious disadvantages; especially if this should happen to be the Muscular or Nervous. For these temperaments constitute the leading agents in the development of the organs embraced in the other two. The muscles involve the motive-power, the law of exercise, which lies at the foundation of growth and health. The nervous temperament includes the brain, the organ of will and thought, which,

of course, must have a powerful influence in directing and shaping the development of the whole system.

It may be said we have no power to change these temperaments, that we cannot change or mould the organs of the human body at will. It is true there are bounds or limits in the changes of organic matter, beyond which we cannot go, but then, by commencing early in life and persevering in the use of proper means, there is abundant evidence that great changes can be effected. The size and strength of certain parts or organs in the body have been, in many instances, materially changed. Illustrations could easily be given, where the size of muscles have been greatly enlarged, and where the power of the lungs and other organs has been surprisingly increased. The fact is, no attempts have been systematically and thoroughly made for the improvement of the young in this direction. It will never be known what can be done in this way, until the trial is actually made. And before any radical changes or reforms can here be effected, we must understand better the evils now existing. We can notice only the more obvious of these evils, with a few suggestions as to their remedies.

EVILS AND REMEDIES.

One of the most encouraging signs of the times is that the attention of the public is being directed more and more to physical improvement. There are undoubtedly serious objections to some of the ways in which this interest is manifested, especially as connected with athletic sports and games. The matter here may be carried too far for the physical and moral interests of those engaged in them. Where this im-

provement is most needed is in early training in the family, combined with an educational system. Physical improvement should become a leading object both in the family and in the school, and, through all the stages of education, the culture of the body should go hand in hand with that of the mind. It should be made to apply especially to those who need it most, whose organization is weak or defective, — where some parts are imperfectly developed or not well balanced, and there is lack of strength and harmony of function. There should be in all schools a system of gymnastics or physical exercises of some kind, wisely adapted to the varied wants of the pupils.

In advocating a more strict observance of the laws of health and life, and objecting to the present modes of education, it should be distinctly understood that no one department of mental culture, no particular mode of teaching, neither the higher education of woman, nor coeducation, are here singled out for criticism; neither is it intended to oppose or object at all to female education; but, on the other hand, we advocate the highest possible mental culture for girls that is compatible with their whole organization, that harmonizes with both the physical and mental systems. This constitutes the only sure basis or foundation for all true culture, and its laws are the certain tests of its correctness and success; for, guided by these laws, there is no theory, no experiment, no failure.

In making application of the principles here laid down, reference will be made more especially to girls, as both in the family and in the school they are less provided with the means for physical development than boys; while, considering the nature and objects of their

organization, it is far more important for girls. Within a few years the education of girls has been pressed with great energy, especially in New England. In cities and large villages, girls are sent annually to school, from five years of age to sixteen or seventeen, with the exception of ten or twelve weeks' vacation each year. In small towns and rural districts, the amount of schooling is less, perhaps, from half to two thirds as much as in cities. While great stress is laid upon the kind and number of studies, and the standard is raised in the mean time higher every year, scarcely any attention is given to the growth and development of the body. With rare exceptions, there is no system of gymnastics or calisthenics provided in schools for girls, and, generally speaking, no regular and systematic exercise that is adapted to promote their highest physical development.

DOMESTIC TRAINING.

Once it was customary for the girls in our New England families to do much domestic labor, commencing quite early in life. They were trained up to it, year after year. Some part of this labor was hard, and its performance made a severe tax upon the muscles. In this way, the constitution of girls became strong and vigorous, capable of much endurance. Besides, schools were formerly continued only about half the year, and then, in the intermediate time, girls found an abundance of exercise in work. One of the most unfortunate events or sentiments that ever befell any people was the change in feeling and opinion that came over our New England women, in regarding domestic work as menial and degrading. Had this

notion been confined to hired service, — for that only which received regular pay, — this injury would not have been so great. But the notion or sentiment has gradually been taking possession of the minds of our New England women, especially girls, until domestic labor, wherever performed, is considered degrading — is not fashionable — and any other kind of work or business is preferred.

These views have not been confined to the city, or to families “well to do in the world,” but have pervaded all classes everywhere, so that very few of our New England girls are trained up to thorough domestic work. Now, no exercise or employment can be found which is so well calculated to develop strong, vigorous, and healthy constitutions in girls, as household work, commenced early, and persevered in, even the more laborious parts of it. At the present day, it is only the lighter kinds of domestic work that girls are called upon to do, and not those harder portions that develop and strengthen the muscles, that harden and toughen the constitution. As girls are now sent to school after six or seven years of age, and kept there five or six hours a day, with lessons imposed which they are obliged to learn more or less at home, there is but little chance or time to attend to household duties. Education is considered by parent and teacher as paramount to everything else; the growth and development of the body, strong and vigorous muscles, a sound and healthy physical system, are practically regarded as of but little consequence.

What, now, are some of the results of this neglect of physical exercise and supreme devotion to mental pursuits? Let us inquire what are the teachings of

physiology on the subject? A fundamental principle of this science is that growth and strength depend upon *exercise*; and, of course, those parts or organs which are most exercised will receive most nutrition. *Exercise* is a primary law of existence. There may be some growth in parts of the body without much exercise, but it cannot be continued long in a vigorous and healthy manner.

NORMAL GROWTH.

There is what may be called a normal growth, a regular order, in which all parts of the body should be so exercised and nourished, that every part, in its own time, may be increased in vitality and strength. If the laws regulating this divine order — this natural growth — are not observed, if certain parts are unduly cultivated, while others are greatly neglected, the consequences must be very injurious, and perhaps ultimately disastrous. This is very well expressed by a distinguished female writer, in the following language: “During youth, the development of the body must be the first care; its strength, its beauty, the complete establishment of every function, the first conditions for its harmonious growth, must be our ruling principle. There is no possibility of avoiding this necessity, this primary predominance of the material organization; it is Divine law, every violation will bring its own punishment, and woe to the people or the race where this order is systematically inverted; disease, vice, and rapid degeneracy will inevitably mark its history.” Because these evils do not follow at once, their danger does not seem to be apprehended. Such is the nature of those evils, resulting from the

violation of physical laws, that their effects are not fully witnessed in one generation, but are developed more and more by the laws of inheritance. It may require several generations for their full development, but unless the causes are removed, these evils are certain to come, just as sure as any penalties attached to the violation of the laws of the Almighty.

PHYSICAL EDUCATION OF GIRLS.

That we may then have a better understanding of the subject, let us inquire more particularly what are the relations of physiology to the education of girls as now conducted? What are the facts?

From six to sixteen years of age, girls are confined closely to school, except about twelve weeks' vacation each year. No systematic provision for physical culture is made at the school, neither is there sufficient exercise taken outside for a proper and healthy development of the body. These ten years constitute also the principal time in life for the growth and development of all parts of the system. The period from twelve to sixteen is especially a critical time in the growth and health of girls. These years in the high school or seminary are crowded with most difficult studies, combined with examinations, reviews, and exhibitions, which make a ruinous strain upon the brain and the nervous system.

In examining the effects of such a course of study, the laws of physiology must be our guide. If we should consider, in all its bearings, the relation of the mind to the body through life, it would seem as though the latter should receive as much attention, during these ten years, as the former. It is a question

whether, by such a course, the great objects of existence might not, in a larger measure, be secured. It is a fact that many young people who grow up in the country, with very limited schooling, excel in scholarship and attainment those trained in the schools of the city. It is also a fact that, where the half-time system of schools has been conducted a long series of years, the pupils (working half of the time) have made as much progress in learning as those attending school all the time.

That we may obtain more definite views of the effects of education, as now conducted, let us consider some of the physiological changes produced by it. The muscles and the brain constitute the two leading forces in the human system, and may be represented by the motive and nervous temperaments. It is of the highest importance that these two temperaments should both be fully developed and made prominent in the growth of the body; otherwise, the organs included in the other two temperaments will never attain their proper growth and complete development.

The muscles constitute by far the largest portion of the body; they grow only by exercise, and become strong and healthy only by much exercise. Thus they receive their proper share of nutrition, increase in size and strength, and gradually obtain that most important quality, — fitness for work and power of endurance. This exercise of the muscles must commence early, and be continued year after year, so that the fibres of the muscles, by repeated extension and contraction, become hardened and toughened; their possessor can then work, and hold on without being tired, will have what is called *great power of endurance*.

On the other hand, where there is deficient exercise and a want of proper growth and development of this temperament, the muscles are pale and weak, soft and flabby; they have not sufficient vitality and strength to carry on, in a healthy and vigorous manner, the machinery of the whole system. The muscular temperament, when well developed, receives a large supply of blood, and constitutes the leading agency in causing a free and equal circulation of blood through the whole system; whereas, when the muscular power is weak, there is a great tendency to frequent congestion, especially in the internal organs, which prepares the way for much weakness and many diseases.

Besides, this muscular power, in large supply, is needed to obtain good blood by a more vigorous action of the lungs and stomach; no one thing is more important for good health than a free and equal circulation of the blood. This muscular power can be obtained only by a great deal of exercise when young, and no substitute by friction, stimulants, or other human devices can be found to replace it. Individuals deficient in this power, labor through life under great disadvantages.

AGENCY OF HEAT.

One of the most important agencies in producing changes in the system is *heat*. While the primary source of heat arises from combustion, produced in the process of converting nutrition into blood, the muscles have much to do with it in two ways; first, in an active circulation of the blood through all parts of the body, thus diffusing warmth with the blood. The greater the muscular power, the better the circulation.

And second, by the muscles themselves acting as generators of heat in their power of extension and contraction, called animal heat or electric currents. The larger the muscular development is and the more highly vitalized it is, the greater is the amount of heat produced by exercise. Such an organization is very important to a people living in a cold climate, or one subject to sudden changes of temperature. What inconveniences, what disadvantages, what sufferings, must individuals be subjected to through life, who have not, within their own persons, such powerful generators of heat and warmth! Clothing to any extent, and artificial heat from whatever sources, afford poor substitutes. Nature in its normal state makes the best provisions for warming the body.

BRAIN AND NERVOUS SYSTEM.

There is another agency holding an intimate relation to the muscles, which is of vital importance. The nervous system has three great centres in every individual, where nerve force is generated. The brain is the nervous centre for the mind, the spinal marrow is the centre for the muscles, and the ganglia, so called, form the nervous centres for the internal organs. Nervous influences emanate from each of these centres, and while each class of nerves has its own specific work to do, and the functions of one cannot be transferred to another, they hold, indirectly to each other, most intimate relations. There is this peculiarity in the nerves that have their seat in the spinal marrow; they are composed of two classes, nerves of motion and nerves of sensation, which extend to every part of the system. These nerves are constantly brought into action in all

kinds of exercise, and as the muscles compose so large a portion of the body, these nerves are very abundant, the motor nerves are indispensable to anything like healthy organization. It is by the use of these agents that motion and life are kept up in the body.

Suppose now, that for a series of years the individual takes but little physical exercise; these motor nerves soon lose their strength and power, and the balance between the nerves of motion and sensation is destroyed. And not only this, but as the nerves centring in the spinal marrow lose in vitality, while the activity of the nerves centring in the brain and ganglia is constantly increasing, the balance of power between these different *classes* is also destroyed. Whenever this balance or harmony of function is once lost, it is not easily regained. As the strength and power of these *voluntary* nerves become much lessened from inactivity, the individual is subjected more and more to the influence of the nerves of sensation, which have been over-exercised, and not unfrequently become morbid and irritable. The ganglia, the sympathetic nervous system, under whose influence the organs of the body grow and live, will share also in the undue activity imparted to the other centres by the inaction of the muscular system. No description or language can express fully the terrible effects of these changes in the nerves, from a healthy and normal state to one artificial and diseased.

But what are some of the direct effects of the present modes of education on the brain and nervous system? According to the laws of physiology, those portions of the body most exercised receive the most nourishment. If all other parts of the system were exercised equally, at the same time, or had received their full growth,

such continuous exercise of the brain might not be injurious; but when both these conditions are wanting, the changes that take place in the brain, in its relations to the physical system from such a course of training, are decidedly unfavorable. In many cases the youthful brain is overtaxed, the development is unnatural. Such persons break down early, some live many years, suffering with weakness and sickness, while others sink into premature graves.

Many girls may go through the whole course of education, — the high school, the seminary, and the college, — may shine as scholars in every department of learning; but what can we say of their constitution, of their physical stamina? Has not the mind or brain been educated too much, altogether at the expense of the body?

These evils are of such a character that physicians only can judge fully of their nature and extent. It is a fact that there has been, within twenty or thirty years, a great increase of diseases among New England women, of such type and character as could originate only from an excess of nerve tissue or the want of a well-balanced organization. Headaches and neuralgia in all their diversified forms, hysteria and neuroses in great variety and intensity, have multiplied. Some of these complaints are accompanied with excruciating pain and long suffering, as they are found difficult to treat and almost impossible to cure. When a person of an intense nervous temperament breaks down in health, it is apt to continue months or years, and sometimes for life. With such an organization, combined with a want of physical stamina, medicines and sanitary agencies do not so readily afford relief; neither can we call

to our aid so fully the recuperative powers of nature. There is no class of complaints so complicated in their nature, so obstinate in treatment, and so doubtful of cure, and at the same time accompanied with so much suffering, as nervous diseases.

Here and there a young woman may devote all her early years to thorough courses of study, and become highly educated, as it is said, in every branch of knowledge, without injury to her health or constitution; but these are the exceptions. If a comparison could be instituted between the physiology of the educated girls of the present day, and that of the young women from the same class of families fifty years ago, or with that of the young women now living who have been trained up to physical labor, we should find in these classes a surprising difference. The brain and nervous system altogether predominate in the former, while the muscular and sanguine temperaments take the lead in the latter. The former may be far more refined in manner, attractive in accomplishments, and excel in book knowledge, but can bear no comparison to the latter classes in physical strength, vigor of constitution, and power of endurance. But the differences are more striking than what are indicated by outside appearances. Upon careful examination, the internal evils growing out of the former organization are far greater than what would at first be supposed.

There are one or two features, connected with this extreme development of nerve tissue, which call for special notice. It happens not unfrequently with persons possessing this organization, that when all their wants are not gratified, when overtaken with disappointment, or overcome by trials, the nervous system

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becomes irritable and morbid, the disposition and temper of mind are at the same time changed. Without sufficient muscular force or the control of the voluntary nerves, such persons become anything but pleasant or agreeable companions.

Another feature in such an organization is its strong tendency to mental derangement. The reason and the will have no controlling influence; the balance in the mental faculties is destroyed; and the individual, composed, as it were, of a bundle of nerves, is governed by mere caprice, whims, or the delusions of an emotional nature. Our lunatic hospitals contain at the present day many just such persons.

Again, we have stated that, when in the course of education, and as a result of it, there is a great predominance of the nervous temperament, and a lack of the muscular, the internal organs of the body do not stand so good a chance for growth and development. As a consequence, these same organs suffer in weakness and greater liabilities to disease; the lungs, from consumptive complaints; the stomach, from indigestion and dyspepsia; the bowels, from costive habits; and the reproductive organs, from a variety of weaknesses and diseases. The heart also suffers in its action, for the want of muscular power, and, in case of weaknesses and diseases in different parts of the body, it cannot force the vital currents so well throughout the whole system.

The weaknesses and diseases of all these organs originate more or less from the want of muscular power, and then this defect comes from neglect of the kind and amount of physical exercise which should have been taken while the body was in a state of growth and development. But an excessive cultivation of the

brain or the mind has, directly and indirectly, done its full share in producing these evils.

To confirm this statement, we might summon a great number of witnesses, but must be content with the following: Mary J. Studley, M. D., now connected a long time with the State Normal School for Girls, at Framingham, Mass., writes thus: "It has been my privilege, for more than twenty-five years, to be intimately associated with young women, either as teacher in the school-room, in the earlier years, or as medical practitioner, or teacher of hygiene, during the latter ones, and every day's added experience only confirms me in the position I have occupied from the first, relative to the various forms of nervousness which characterize our sex. That position affirms that the best possible balance for a weak, nervous system is a *well-developed muscular system*. Weak, shaky, hysterical nerves always accompany soft, flabby muscles, and it is a mournful fact that the *majority of the young women* whom I meet in schools are notably deficient in muscular development." In the *normal* school, we should rather expect to find more physical stamina, as it embraces only those girls who are pledged to become teachers.

One feature alluded to in this quotation may be thus accounted for. This "nervousness" comes partly from a *premature* development of brain, and partly from over-stimulating the mind by appeals to emulation, and other motives or objects that are decidedly unwholesome in their influence. By these and other means the whole system is brought into an unnatural and morbid condition, which is anything but comfortable or hopeful, either as far as the individual or her friends are concerned.

The fact here stated brings us to one of the most serious evils in the present modes of education. While it cultivates the mind and stores it with knowledge, training the mental faculties to their highest extent, and capacitating them for the greatest happiness, it develops at the same time an organization, which, unless it has health, the means and ability to be gratified, becomes susceptible of immense suffering, both of body and mind. It may be said that such a result cannot be prevented, especially in some cases, but alas! they are altogether too common, and are likely to increase more and more unless some radical reforms are effected.

IMPORTANCE OF GOOD HEALTH.

There is scarcely any complaint that a physician hears oftener from young women than this,—a tired feeling, a want of strength, some weakness here or there, general debility, etc. Such complaints may come sometimes from bodies weak and frail by birth or from local disease; but more generally they originate in the early neglect of physical exercise, and from a deficiency of muscle. We cannot describe this deplorable condition better than in the language of one who was the first woman in this country to study anatomy thoroughly in the dissecting-room, with reference to professional life. This occurred over thirty years ago in Philadelphia, and the individual has been for a long time a successful practitioner of medicine in London.

In describing the defective organization of American women says Elizabeth Blackwell, M. D., "We need muscles that are strong and prompt to do our will, that

can run and walk in-doors and out of doors, and convey us from place to place as duty or pleasure calls us, not only without fatigue, but with the feeling of cheerful energy; we need strong arms that can cradle a healthy child and toss it crowing in the air, and backs that will not break under the burden of household cares, a frame that is not exhausted and weakened by the round of daily duties. We need muscles so well developed that shall make the human body really a divine image, a perfect form, rendering all dress graceful, and not requiring to be patched and filled up and weighed down with clumsy contrivances for hiding its deformities; bodies that can move in dignity, in grace, in airy lightness or conscious strength, bodies erect and firm, energetic and active; bodies that are truly sovereign in their presence, expressions of a sovereign nature. Such are the bodies we need; and exercise, the means by which the muscular system may be developed, assumes then its true position as of primary importance during the period of youth. It is the grand necessity to which everything else should 'submit.' This is strong language, but none too strong; the description will be heartily approved by all medical men, who comprehend fully the powerful influence of the muscular system.

Such an organization as is here described has two great advantages: *first*, the self-possession and conscious power which it gives a woman; and *second*, the commanding influence which such a physique everywhere has over others. There is a power, a charm, a magnetism in the female form or organization, when clothed with all the elements of beauty, which no language can describe.

But such a development of the whole person is not

easily obtained ; it certainly cannot be by performing the lighter kinds of housework, by a short walk now and then, by occasional gymnastic exercises, by a little croquet playing, or by any amount of piano playing, or attention to music, to embroidery, drawing, painting, etc.

In no part of female education is there so much need of reform as in *physical culture*. If the standard of scholarship is to be raised higher and higher in all our schools for girls, and no greater attention is to be paid to the laws of health and life, grave consequences may well be apprehended.

If this educational pressure was confined to a few individuals, there would not be the same danger, but when the great majority of our New England girls are thus crowded, its effects become widely extended and far-reaching into the future. The remark has been made, "Educate a woman and you educate a race." This saying is full of meaning, and capable of different interpretations. Its meaning or application must depend upon the term "educate," how and in what way it is done. This "educating" should have reference to the future as well as to the present, to the body as well as to the mind ; for the highest developments of brain and nerve-tissue alone will never go far towards educating a race ; in fact, it will inevitably run out.

God has established, by the laws of inheritance, most intimate relations between one generation and another. As yet, these laws are very imperfectly understood, but enough is known to show that they depend upon certain conditions, which must be carefully studied and taken into account. These conditions

and laws cannot always be ignored or set aside with impunity.

While it may require several generations for the full development of these laws, the first links in the chain seem the more important. If an education that breaks down and impairs the physical energies of the system, tends to defeat the wise operations of those laws; if this supreme devotion to mental culture alone, combined with other influences in society, is calculated to establish generally a standard of living so high and expensive that the great majority of young people have neither the means nor the physical strength to adopt and carry it out, — if such is the result of this state of things, that it must and does interfere directly with the duties of domestic life and the objects of the marriage institution, is it not time to pause and consider whither, as a people, we are drifting? It may be said that education is not the cause of such a state of things or condition of society and the evils that threaten; yet it constitutes the leading, if not the most powerful agency in society. This education commences early with the girl, shapes her habits and character for life, and the influence of woman dictates the fashions of the day, and moulds our domestic institutions.

This high pressure of educational influence does not extend much further back than one generation. As a people, we are just entering upon the second generation, but we find already unmistakable signs of physical degeneracy. The registration and census reports are bringing to light startling facts, in respect to decline in the birth-rate, to the diminution of marriages, to the permanence of the family institution, and changes in population, etc. Should the same causes continue and

increase, as they may, corresponding results will follow, and the next generation will witness in those matters still more disastrous results.

Inasmuch as a primary cause of the evils that have been alluded to is, we believe, closely connected with the school system, we would earnestly invite the attention of teachers and the friends of education to consider if some reform cannot be effected, and especially if more attention cannot be given to *physical culture*, in the case of girls. Said President Eliot, a few days since, in addressing the Alumni of Harvard University: "Now everything depends with us, and in the learned professions, upon *vigor of body*. The more I see of the future of young men that go out from these walls, the more it is brought home to me that professional success, and success in all the learned callings, depends largely upon the vigor of body, and that the men who win great professional distinction have that as the basis of their activity." Now if young men must depend for success in life upon the "vigor of the body," is it not equally important for young women, who are to be their competitors in the learned professions, and in various departments of business, and, what is still more important, who are to be, in the broadest and fullest sense, the "educators of the race"?

LECTURE III.

HOW TEACHING MAY BECOME A PROFESSION.

By HON. EDWARD CONANT.

TEACHING is an occupation. In the census reports teachers are placed in the same class with barbers and clergymen, and laundresses and lawyers, and physicians and restaurant-keepers. Teachers render personal service. In numbers they are nearly the geometrical mean between domestic servants and hostlers. In power to control their own methods of work, they are the arithmetical mean between laborers and chiropodists. In respect to the necessity of learning their business before practising it, they are found between bill-posters and milliners.

Teaching is work. It is a respectable work, and so all classes of people engage in it. The time was when the lowest of the people were made priests, and then true religion did not flourish. The time was when teachers were a meaner kind of servants. John Lily, in 1579, pictured the teachers of his day. Royalty even then had been trained by Roger Ascham, to whose noble qualities Toxiphiolos is a perpetual witness, but the teachers of the common gentry, — not of the common people, for whom in those sad times there were no school-teachers, — the teachers of the common gentry are described in Euphues.

Hear the story: "A gentleman that hath honest and

discreet seruants dysposeth them to the encrease of his signiories, one he appointeth stewarde of his courtes, another ouerseer of his landes, one his factor in far countries for his merchaundize, another puruayour for his cates at home. But if among all his seruants he shall espy one either filthy in his talke or foolish in his behauior, either without wit or void of honestye, either an vnthrif or a wittall, him he sets not as a suruayour and ouerseer of his manors, but a superuisour of hys children's conditions and manners, to him he committeth ye guiding and tuition of his sons, which is by his proper nature a slaue, a knaue by condition, a beast in behauior. And sooner will they bestow an hundred crowns to haue a horse well broken then a childe well taught, wherein I cannot but maruell to see them carefull to encrease their possessions, when they be so carelesse to haue them wise that should inherit them."

Many things have changed in the three hundred years since first at Easter Euphues lay bound on the stationer's stall. The housewife no longer asks for a "sleeke stone" to smooth her linen, nor for lack of the stone uses a pebble. Nor is it so often true now as it was then that ability and purity and politeness are required for the overseers of lands and of merchandise, while ignorance and obscenity and awkwardness are assigned to the care of youth.

In Lily's view, the teacher is only the servant of an individual master, temporarily set by the master to the task of instruction because of his unfitness for other service. His was not a chosen occupation. He had no public character. Not quite so is it now. The teacher performs a chosen service, to which he fre-

quently devotes his life, and for which sometimes he makes long and careful preparation, and he serves the community rather than one member of it. But the relations of teachers to each other, to their immediate patrons, to the more general public, and to the State, are without definition or description. Teaching is not properly a craft nor is it a profession; as of Barnum's once famous monster, its most suitable name is "What is it?"

Educators and friends of education have long and wisely insisted that teaching should become a profession, and be ranked with the three established learned professions, whose distinguishing characteristics are the large and liberal culture and the high and difficult pursuits of their members; and the liberty accorded to them in the choice of instrumentalities and methods by which to labor, and in the power granted to them for the most part to determine what persons may be admitted to their ranks and on what terms, and who shall be expelled from their numbers and how and for what reasons. Teachers do not yet constitute a learned profession, because the large majority of them lack both general learning and special training, and because membership with them is obtained neither from a proper source nor on proper terms. Indeed, is there any such thing as membership with the body of teachers, or as the body of teachers? To teach in our public schools, indeed, some certification of qualifications is required, but not to teach in the private schools. Suppose a parent desires to send his child to a private school, by what method can he be assured of the fitness of the instructors there to serve him in the person of his child? Of course we all know how to distinguish a

toadstool from a mushroom. The catechism runs thus : —

Question. How can I tell whether a given plant is a toadstool or a mushroom?

Answer. Eat it. If it kill you, it is a toadstool. If it do not harm you, it is a mushroom.

Very like is the manner of testing a large class of persons called teachers and a large class of institutions called schools. "Try me," shout the principal "Try us," shout the assistants. "Try them," shouts the principal's particular friend. And the citizen sends on his child. Private schools, incorporated academies, and colleges form an important part of our educational force. We cannot do without them. We have no desire to dispense with them. But we do insist that teaching cannot become a profession till all who teach in schools of any grade, on any foundation, are subjected to proper tests and, having stood the test, are certified to the public as qualified for the work they undertake to do.

Why should not qualifications be ascertained that one may teach? One must possess certain qualifications in order to vote, or hold office, or serve his country in the army, or preach in the churches, or practise in the courts, or prescribe for the sick ; and the country doctor who attends on families or individuals, when called, and looks to them for compensation, is required to be able to show a proper medical standing no less than the attendant upon a public hospital who is employed by State or municipal authority and is paid from the public treasury.

The demand is reasonable that teachers should be subjected to examination and license, but it should be

as teachers, not as the servants of municipalities or corporations. Why should there be such a distinction among teachers or among schools? Is not the work one? In any school does not the teacher go down to the foundations and endeavor to square and to polish the original granite of each child's humanity? In any school is not the effort made to arouse forces that shall run through the circuit of the world? In any school is it not the purpose to wing the spirit for a flight through the empyrean, beyond the stars, to the immediate presence of its Maker?

The work of the public and of the private schools is one, and their workings are inextricably intermingled. Does the law require that all children of suitable age and in good health attend some school for a definite portion of each year? And is it right and proper that children be excused from a well-appointed school, taught by an experienced and properly licensed teacher, to attend a private school, taught by an inexperienced, incompetent, and unlicensed teacher? Such cases actually occur and are causes of complaint.

It is asserted, then, as needful to constitute teaching a profession, *that all who teach be properly tested and in some regular way licensed to teach.*

And the tests should be applied by such agencies as to render the passing of them an honor rather than a degradation, and the certificates themselves should be assurances of personal independence, not badges of servitude. There is small honor in receiving a certificate which implies that one's capacity is likely to cease on a given day next year. And how can rapid progress be made in educational methods when the narrowest and least enlightened citizen of a

town may become the master of all school-teachers and direct what methods they shall use in a work which they have studied and he has not?

If teaching is to become a profession, the authority to teach must be derived from the body of teachers. What medical society receives members on the certificate of men, who, besides lacking a knowledge of diseases and skill in medicines, cannot even read? Of what bar association may one become a member by paying one dollar for the privileges of a cheap excursion? In what denomination of Christians are the clergy commissioned and inducted to office with no concurring voice of the clergy of the denomination?

It is affirmed as a second principle *that in order for teaching to become a profession, those teachers who are worthy must become associated, with authority to establish and administer the rules in accordance with which persons may be admitted to standing in the company of instructors.* They should also have authority to determine how and for what causes persons may be expelled from their order, and to expel members when necessary, to frame in outline courses of study for all grades of schools, leaving to teachers and to local authorities the power to adapt the outline course to their peculiar necessities, to fix on plans for school-houses, to recommend lists of text-books for States from which the proper authorities may select books for towns or for counties. Membership in the association should be a license to teach in the schools of the grade to which the member belongs, and once granted should continue through life, unless forfeited by neglect or by overt act.

It is quite probable that a successful primary teacher might not be a good college president, and conversely it

is very likely that the college president would not greatly shine as a primary teacher. As there are these three quite easily distinguishable grades of school-work, namely, the primary, the secondary, and the higher, it would doubtless be advisable that the association of teachers be divided into three grades, with possible subdivisions, and that members enter by the lowest grade and pass to the higher. In some of our larger teachers' associations even now are divisions into sections, with separate meetings for special work. In ecclesiastical bodies there are distinct orders of clergy; and among lawyers, admission to practise in the State courts is one thing, and admission to practise in the courts of the United States is another thing.

By what steps teachers may secure organizations with the powers desired for them would be an interesting topic for discussion, but for the present it is not important. Many courses are easily conceivable, and it is more than probable that if the teachers of the entire country were to act in concert for acquiring such powers different methods would obtain in different States.

During the transition period the present provisions for licensing teachers might be retained. And if the action of the teachers' association or society should need be supplemented permanently, existing arrangements hint to us how it may be done. For example, in Vermont county certificates and State certificates to teachers are granted by boards of three examiners, two of whom in each case must be practical teachers. And in Pennsylvania the county superintendent of schools must have certain educational qualifications and must have had experience in teaching.

Our institutions for the professional education of teachers are in process of development under favorable circumstances. The alertness of their managers to discover and use the best methods of organization and instruction according to the tendencies and needs of the time, furnish a sufficient assurance that ultimately all needed modifications will be made and that means for professional training will be offered to all teachers.

And this is our third affirmation, — *that in order for teaching to become a profession, provision must be made to furnish professional training as well for the teachers of the highest grade as for those of the lowest.* If the primary-school teacher should be trained for her work, why should not the college professor be trained for his work? I know a young man of fair ability, who suffers because some of his first teachers were unskilful, and who also suffers because a professor in the college to which the young man went was but partially educated and incompetent. The professor had passed through a good American college with high honor, and had spent more than the years of a college course in European universities. He was a learned and a studious man, but he lacked a knowledge of the art he proposed to practise. The average Freshman was to him a complete mystery, and how to reach the Freshman and interest him, how to present science in a form adapted to the Freshman's mental condition, were to him unconsidered themes. Was it less an imposition on the public for the college to place such a man in a professor's chair than it would have been for a person wholly untrained to attempt to teach a common school, or for a man who had never worked on iron, nor lifted hammer, nor examined the hoof of a horse, to advertise

himself as a horse-shoer? That professor will become respectable and may become eminent as a teacher, but ought he to have been hindered in his success and discredited before his fellow-men while through years of blundering he was retarding the process of scores of students? We have not the proper schools for the professional training of such men, or of those college graduates who teach in our secondary schools.

It is well known that in many a graded school, high school, and academy, the teachers least skilful, because least well prepared for their work, are those teaching the highest classes and those charged with the oversight of the entire school! They are college graduates, and may the proportion of college graduates increase in our schools! But not all, probably not a majority of our teachers, can ever avail themselves of a collegiate training, for the reason that the emoluments of their profession will never repay them for so great an outlay; and this all the more certainly, as so large a proportion of the primary and secondary teachers are women, a majority of whom will marry, and by marriage will be withdrawn from teaching, rendering the average term of service in those departments of the teacher's work a comparatively short one. We must face, then, these inevitable demands, namely, for professional schools adapted to the wants of persons having not more than a good grammar-school training, and for professional schools adapted to the needs of the most scholarly of college graduates. We must have grades, and higher grades, of normal schools.

What the final form of those higher normal schools, and what their relation to the present normal schools must be, we will not now inquire. We will not inquire

or speculate concerning the question whether the future normal school of the highest grade shall be a distinct institution, or be joined with a lower-grade normal school, or with a college, or whether all of these modes shall be freely adopted. But we will suggest that the universities and colleges have a present work to do, which seems to us to be no less honorable and imperative because it may be temporary. We think it devolves upon them at this time to assist in the building up of the new profession by affording means for the acquisition of some special knowledge of methods of instruction and of school organization. Surely a course of lectures on pedagogics, such as circumstances may dictate, is within the proper scope of any university ; and while the colleges are ambitious to have influential positions in schools filled by their graduates, the appropriation of a small portion of their income to the support of a lectureship, the design of which is to help those graduates to fill worthily the desired positions, is but a small price to pay for the boon they seek.

These three things, then, I set forth as necessary to the establishment of teaching as a profession : —

- I. That all persons who teach be licensed to teach.
- II. That all licenses to teach originate with teachers.
- III. That provision be made for the professional education of all teachers.

LECTURE IV.

EXTREMISTS IN EDUCATION.

By A. C. PERKINS.

WE are all under great obligations to men of one idea, men who are sometimes stigmatized as riders of hobbies, and thrust aside as of no account themselves, because they make so much account of their ruling notion. They push some one thing to an extreme, but they force us to see that what we have underrated, or wholly rejected, has a place somewhere in the economy of the best work, and that while the special advocate may have gone too far, and become lost, absorbed in one thought, we have never gone far enough.

A well-known, ingenious, imaginative author has written a delightful series of books that have fascinated and charmed all readers, and delighted them none the less because of the utter impossibility of the things which in a matter-of-fact way he has described. I refer of course to the Frenchman who tells of his journey to the Centre of the Earth, of his Twenty Thousand Leagues under the Sea, of his Passage from the Earth to the Moon, and his sensations when dropped from the clouds. I have no doubt that much study of natural and physical science has been stimulated by what he has written, that some knowledge of geography has been learned by those who have followed his freaks,

that his extravagance has provoked new thought, and all this without leading a single reader to attempt for himself an escape from our humble planet, or a journey among the mermaids. I enjoy his flights of fancy, and get much advantage from them, but I decline to step into his balloon until I actually see him accomplishing better and safer results, year in and year out, than I can get by the less brilliant and startling processes in which I have been trained.

Now, I think we have, in the science of education, the same kinds of extremists that Jules Verne is in physical science. They carry things to the same absurd, fantastic excess; they may be of value to us, provided we can study them as phenomena, without following them as guides, can hear what they have to reveal, and interpret it in the light of hard common-sense. The tone adopted by these men is not likely to be the genial, persuasive one of the French humorist. It is more likely to be domineering, self-conceited, exacting, superior. Their utterance often is, "I have a method, a philosophy of mental action, a grasp of the problem of education, more rational than any hitherto attained. I have taken steps in advance of other men, directed by an insight that guides me to absolute truth. When I wait for you to respond to my claim, you fail to acknowledge me, because you are slaves of prejudice, of formality, of inherited beliefs, because you are blinded by ignorance, hampered by idleness, cramped by fear of change. Leave what have been your guides in the past, take my authority, test my way, learn and adopt it." These men occasionally — oc-ca-sion-ally — *may* be prophets, catching glimpses of truth yet to be fully revealed, and turning us towards

new paths in which we are to walk. If we can separate prophetic truth from mere rhapsody, we shall do well to listen to them.

I want to refer specifically to a few of the extreme doctrines, which I believe in these days are misleading teachers and distorting the product of education. Each of itself might claim all the time that I give to this paper. I shall therefore do little more than name them, briefly comment on them, and not attempt a complete discussion of any one of them.

I shall refer to the extremist: —

- (1.) As an object teacher.
- (2.) As condemning text-books.
- (3.) As an advocate of written examinations.
- (4.) As a defender of one-sided education.
- (5.) As one who condemns the infliction of physical pain as a punishment.
- (6.) As a stickler for (so-called) natural methods.
- (7.) As one who would abolish normal schools.
- (8.) As a foe of religious teaching.

The great value of what is called object-teaching, in imparting elementary ideas and giving them shape, cannot be overestimated. It is at first absolutely indispensable to a clear understanding of the most common and familiar principles. It is adapted to primary instruction, as the support by which the infant is helped to sustain itself, and walk alone. But the time comes quite early when the power of abstraction must be exercised, when the mind must learn to work without the presence of material objects, when the imagination must be trained to invent, devise, and shape new objects, instead of deriving impressions from objects already in existence. By all means, at first, take

two blocks, and three blocks, put them together and count them, to show the child what addition means and that two and three make five. But so soon as the learner is capable of it, discard the object and press forward to the combinations of numbers and the comprehension of numerical relations.

The process of adding by counting the fingers expresses the child's natural preference for object-teaching; the breaking up of that habit by the teacher is the remonstrance in favor of a more mature and manly process. This method is, like all others, liable to become painfully mechanical. There is an object-teaching in which the object is more difficult to understand than the principle it elucidates, where the training is transferred from the brain to the fingers, which makes skilful manipulators rather than sound and safe thinkers. A man may have the very highest degree of mechanical skill, and yet be of but little more value than the laborer upon raw material, because his education has kept him so close to some visible object, that he has had no conception outside of it. The physical senses of many brutes appear to be keener than any ever possessed by men, the power to grasp a logical process is proportionally weak. I should prefer the name "illustrative teaching" rather than "object teaching." I should use it never for the sake of the illustration, but for the principle it reveals, and keep it within such limits that the inventive powers shall be constantly tempted beyond it.

Another extreme concerns text-books. Here I see men standing off in every direction. First, in the excessive praise and censure bestowed on particular books. Among our common-school books I believe

there is no such thing as an absolutely best, however many absolutely worst there may be, and that every commendation that designates a given arithmetic, geography, or Latin grammar as the best, is ignorant and short-sighted. From a large number of good books there may be some one, that under existing circumstances, for the age and capacity of my pupils, and the particular work they have to do, I may, on the whole, prefer. This preference may be due to the excellence of the book or the defect of the teacher, or the peculiar circumstances in which I am placed. If I claim that it is absolutely the best, I am likely to advertise thereby my own narrowness and ignorance.

Then we have the doctrine that no text-book whatever ought to be used in the early years of school-life. This is a protest against the formal memorizing of mere words, when the pupil is required to learn more than the teacher himself knows. But the protest is an extreme one. A man spends twenty or thirty years in the study of some one branch and in teaching it. He knows from his experience where learners most frequently fail in understanding a given principle. He has a statement of facts that has been revised and corrected by his own experience, and ripened by his meditation and reflection. He puts this into print for his own use and the use of others who may be of his way of thinking. Why such a statement can fail to be helpful to teacher and learner, I cannot understand, provided the teacher has scholarship enough to judge of the accuracy of the book that is placed in his hands. If he has not this degree of scholarship, he certainly ought not to attempt to teach *without a book*. Most of the complaints against text-books come from the abuse

of them, from expecting more of them than they can possibly accomplish. With a teacher who can breathe into the printed page the breath of life, and hold the book in its proper subordinate place, it must, even in the case of the youngest pupils, be a help. I know schools in which teachers require pupils to do a deal of needless copying, and submit to the useless drudgery of writing from dictation facts of history and science under the false notion that they are doing something better than can be done with any book. We need the book as a conservator of exact statement. The looseness of much that passes for statement of fact in oral teaching is appalling. Indeed, it is extremely difficult for a man with twenty years' experience behind him to attain tolerable accuracy in the first edition of so simple a work as a Latin grammar or an arithmetic. If you will compare the earliest and latest editions of some of these works that have been published in New England during the present century, — perhaps during the memory of some here present, possibly during the last ten years, — you will appreciate the point I am making. The crude, contradictory, distorted jumble of statements of the first edition are not recognizable in the perfected work. I do not call to mind a single arithmetic or Latin grammar with the first edition of which the author has been satisfied. Now if there is such a uniform failure to make sufficient statements of principles on the part of learned and experienced teachers, what shall we expect of young men and women of little experience, when they begin, without an accurate book to serve as a clew? Even in the use of a book I should be reluctant to take a first edition,

or one that has not been revised under the searching criticism of actual use.

I believe we are overdoing, in our schools and colleges the matter of written examinations, both as a test of what goes to make a scholar, and as a means of discipline. It has its place as a test of certain faculties, it is adapted to secure careful, accurate statement; but no man can put all that constitutes a good scholar on a written page. When a common measure is sought, that can be applied impartially to a large number of pupils, merely for the sake of making a comparison between them, in reference to a few of their trained faculties, it is perhaps better than anything else; but I fear it is coming to be used in such a way as to signify that the main business of the instructor is to ascertain, by the most convenient means, what the pupil has learned, rather than himself to guide, inspire, encourage, teach; that he is becoming the task-master rather than the helper. The test is at best an arbitrary one. I lately heard a distinguished college professor, who, for more than forty years, has examined boys for admission to college, say that he could get the gauge of an applicant by hearing him translate a single passage, more trustworthy than a judgment derived from any amount of written work. What goes to make up human personality, the sum total of character and ability, needs, especially in the young, something more than can be put on to a written page in order to reveal it.

The difference between the advocates of an education exclusively classical and of one exclusively scientific is entirely a diversity between extremists whose scope is too narrow to look over the whole field with which an

educated man ought to be familiar; I designate these men as defenders of a one-sided, or perhaps I should say a deformed, distorted education. Graduates of the same college, members of the same body of instructors, often sound different notes on these themes. I have heard an eminent scientific man denounce severely the study of Greek, and insist upon it that the attention given to it in preparation for college is belittling and withering, that it is producing a positive shrinkage of the brain, and that less than nothing is derived from it that can be of value in the life of a busy American citizen. The same unfavorable comments may be heard from some specialists in classics and mathematics upon other objects of study. The virulence and positiveness and bigotry with which this wordy war is waged reminds me of a body of physicians undertaking to decide whether the brain, the heart, or the lungs is most important in the support of life, and claiming that two of them are wholly useless, and that life could best and most healthfully be sustained by only one. When the truth comes to be appreciated, — that a man cannot in these days be rightly called liberally educated, who lacks training in any one of these departments of human knowledge, — these extremes will most likely meet. Exclusive training in any one gives to the mind the same distortion that the body of the athlete acquires who confines himself to the oar, the race-course, or the putting up of a fifty-pound dumb-bell, as his only physical exercise.

In the details of school government there is an extreme, an extreme of fastidiousness and squeamishness, about the enforcing of authority by the application of force to the body of an obdurate offender.

I call that man an extremist who holds that physical pain should never be inflicted to repress insubordination and secure obedience to rightful authority. I am perfectly familiar with the outcry of "brutality," "dark ages," "torture chambers," that we hear in this connection, and with the testimony of some of the instructors of select or peculiar schools as to the long years during which they have never used the rod. Their testimony is just as valuable as that of a college president who should say that he had never applied the rod to his senior class, or a clergyman who has succeeded in keeping the members of his congregation in order on the Sabbath without flogging them. Notwithstanding all that has been said, it still remains true that pain, wisely, kindly, dispassionately, thoroughly, severely, and privately administered, is often the gentlest and *most soothing* remedy, bringing wholesome results and leaving no sting behind. The substitute of what is sometimes called moral suasion for corporal punishment, when it consists of bitter, sarcastic words, is a poor one, and bad for the pupil every way. I have sometimes sat in a school-room from which the use of the rod was strictly excluded, where a well-applied birch would be considered out of place as much as thumb-screws and pin-cers, and have shuddered under the sharp, taunting words and mocking manner of the person occupying the place of teacher; and I have felt that there is an indignity and outrage in the use of hard words that even a cruel infliction of blows could not equal. So far as the objection to corporal punishment tends to remove from it all that is tyrannical, mean, revengeful, cruel, unlovely, the plan is a good one. To exclude it altogether is an extreme only less dangerous than the excessive use of it.

Another extreme relates to methods, and presumes that what is natural for the infant is also natural for the full-grown man, and proposes to teach adults by applying to them the processes that are practicable for infants, in imparting to them the rudiments of knowledge. It seems to go upon the theory that previous discipline, and aptitudes already acquired, are of no value. The babe needs to be carried in the arms or be led carefully by the hand through the forest, but the old hunter needs only a few hints to enable him to go alone, safe and sure.

The assaults that have been made within the last few years on normal schools come from a class of extremists, some of them quite respectable, who, without stopping to examine the actual work these schools are doing, and the uplifting influence they are exerting, and the interest in the best methods of instruction they are diffusing among the people at large, by a long leap through the dark jump at a conclusion unfavorable to the training of teachers at the public expense. The way in which an outlay for this purpose comes back many-fold into the public treasury is not difficult to trace, so far as mere dollars and cents are concerned. The way in which a return is made too precious to be measured by any money standard of value, is equally plain. To be sure, the normal school sometimes exercises the privilege of turning out a dunce, or an impracticable, unwise man. All the colleges of England and America, together with the schools of theology, medicine, and law, have from the beginning successfully maintained the same claim. If we are to estimate the value of the normal school solely from the poorest specimens of teachers that come from them, they will

fail to secure confidence, as every other professional school must do. If we judge by the best, or by the average results that are before our eyes, the normal school will sustain its right to live at the public expense.

I hardly know how to deal with the man who brings forward the stock arguments or objections against normal schools. I find it difficult to get a grip on the mind of that person who insists upon it that two and two make three, that light and moisture have nothing to do with vegetable growth, or that he has discovered perpetual motion. The difficulty is in bringing such a man to face facts. If he cannot see that the teacher's profession differs widely from that of the lawyer or physician, that the inducements to enter it are wholly unlike, that the blunders in it are working greater injury to individuals and the public at large, that the number of teachers necessary for any community is greater than that of all other professional men, that the learning of the business by undirected haphazard practice upon our boys and girls is largely a waste of what is more precious than gold, — if a man cannot see this upon an examination of the facts, I do not know how to reason with him. We are getting past the time when a mere knowledge of certain facts about the common branches of learning is to be taken as an evidence that a person is competent to teach them. How to impart that knowledge, a clear conception of the order of development and the avenues of approach to an undisciplined mind, are things required now. I have in the course of my life been called on to examine teachers for our public schools. I have declined to give certificates to applicants who have failed to pass an examination in the primer, not because they could not read this

elementary book and understand the contents of it, but because when asked how they would teach the alphabet, they would hesitate and give some such answer as, "I would call the scholars up, tell them the names of the letters, and ask them to remember them." No thought had ever been given to a systematic, economical method of teaching children to read, — such a method as every teacher from a normal school is perfectly familiar with. Without a knowledge of some method, no teacher, with my consent, shall ever go into a public school.

I feel every day the disadvantage at which we have been put here in New Hampshire, by the failure to sustain, liberally and without grudging, our Normal School. One such institution, sustained as well as any one of the five in Massachusetts, will make its influence felt for good in every school district in the State.

There is another extreme for which, in this country at least, I do not see the remedy. I mean the objection that is urged against all religious teaching in our public schools. I know what sectarians many of us are, and what danger there is that narrow men and women will exhibit an unchristian spirit in teaching what to them stands for Christianity. But for one, I cannot complacently see the religious element, in its best, sweetest, most enlightened aspects, dismissed from our schools. It is regarded in some quarters as an impertinence even to inquire about the religious character of a candidate for teacher of our public schools; and an objection to placing an atheist, or a disbeliever in divine revelation, over our children during the most susceptible years of their life, is stigmatized as persecution for opinion's sake. We may teach about anything else that comes within the pale of decency, — fables, mythology, vaga-

ries of all sorts, — but when it comes to the one thing that more than everything else has shaped New England character, and wrought in traits of purity and strength, that alone must be excluded. We are learning in this generation that there is one thing more narrow, unreasonable, and heartless than religious intolerance, and that is irreligious intolerance; with that we have to deal when we face men who oppose the giving of instruction about the source of all good morals.

I thus touch on a few subjects, in which I often see men going to an extreme, impracticable and unsafe. Declarations of opinion about them are liable to be so dogmatic and unreasonable, — and perhaps my own expressions may have this appearance to some of you, — that the young teacher must often be seriously perplexed. “You must believe and do this, you must never do or believe that,” produce a jangle of purposes that dampens the ardor of one who cannot rise above them.

About methods and the order of studies we shall probably never entirely agree. The experience and observation of practical men, the theories of speculative men, the varying circumstances and character of the same community in different generations and different communities in the same generation, must cause a variation of opinion. But about the value of disciplining the mind and heart for good and developing all traits that can strengthen and exalt, about the need of sincere, unwavering sympathy with the learner and a real purpose to uplift him, there ought to be no substantial variation.

Begin with an earnest, honest, truly kind and benevolent purpose. Secure the best equipment possible, be carried about with no wind, no *wind* of doctrine. Prove all things, hold fast that which is good.

LECTURE V.

EDUCATIONAL JOURNALISM.

By C. C. ROUNDS,

NORMAL SCHOOL, FARMINGTON, ME.

I shall not embarrass this discussion by any criticism of existing journals. No more effective plea for their support can be made than by calling the attention of teachers to their real character, to their real place and power among the agencies for educational advance. This clearly seen, the duty of the teacher to bestow upon them so generous a support that they may most effectively do their work, will plainly appear.

The educational journal must be adapted to the character of the cause it advocates and to the class to which it appeals; in short, to education and to the educator. In the language of Rosenkrantz, the science of education "cannot be derived from a simple principle; it is rather a mixed science which has its presuppositions in many others." It involves to a greater or less extent the ideas of religion, of philosophy, of all arts and sciences.

In its relations to science, art, philosophy, and religion, its position is not the same as that of journals

specially devoted to these subjects. It is not a journal of special science, but it should give authoritative and comprehensive summaries of scientific achievement, so that through it the education and instruction of the teacher may always be kept up to date.

For familiar examples of such summaries, I may refer to "Nature," the "American Naturalist," and the "Academy."

The educational journal is not an art journal ; but the subject of art education will long be a prominent one among our people, and all proposed movements in this direction should be tested by the soundest principles of education and of art. For lack of this we have suffered much in the past, and are in danger of suffering much in the future. Art and science it must fully treat in all their educational bearings. The teacher should feel that his journal is an aid and safe guide to so much of the movement in the artistic and scientific world as will keep him, as a teacher should be, well up with the latest advances in these directions, with such references to the best sources of culture as will enable him, profitably and economically, to obtain as careful and minute a cultivation as his tastes and circumstances demand and allow.

In some countries the school is an adjunct of the church ; this is not the case in our land, but we mistake if we think that our education can be anything else than the exponent of the highest form of Christian civilization. The principles of religion cannot be directly taught in the public school, but they are necessarily implied in all true culture. The educational journal should be distinctly and unequivocally on the side of that religion which has moulded the form of our

civilization, on the side of that philosophy which most honors the spirit of man.

The literary character of the educational journal should be of the highest. Its specialty should of course be the literature of the profession, which is a sealed and utterly unknown book to most teachers. This should have relation not merely to the literature of the present, but to the best of educational literature and biography and history of all time. Those books which have the most valuable thoughts upon education, the epoch-making books in the profession, should have their thought made known to the teachers of to-day.

A noble work has been done in this direction by Dr. Henry Barnard, in his "Journal of Education," by far the most valuable collection of educational literature in the English language; and it is not to the credit of American teachers that he has never been adequately rewarded for his labors. A general movement for the purchase and study of Barnard's "Journal," or of the various volumes in special departments of educational literature made up from it, would be but a fitting tribute and reward to this veteran in the service, and of incalculable benefit to teachers and pupils alike. By the monthly or weekly journal as at present conducted, but little of the work of this noble quarterly could be accomplished, but certainly such a journal should guide its readers to the authorities.

Nothing but going to the fountain-heads, following down the streams of thought which have watered the arid plains of education, can really fit the teacher for his highest work. I am tired to utter weariness of the unending iteration and reiteration of exploded theories,

the presentation and re-presentation of educational machines which will not work, but which must be tried upon successive generations of children, because the triers know nothing of previous failures, and are equally ignorant of the first principles of educational philosophy. In comparison with such slaughterers of the innocents, Herod deserves canonization.

The department of literary criticism should be one of the leading departments of the educational journal. Its critiques should be not mere office work, but work by specialists of the highest authority. The elaborate essay of the quarterly review is beyond its scope, but not such as are often found in the best scientific and literary journals of England and of the United States, — criticisms which are of real value to a reader who never sees the book itself. The custom of some of the best English periodicals, of giving the names of the writers of criticisms, is an advance upon the anonymous criticism of the American press. A critique upon books pertaining to Egypt signed by Stanley Lane Poole, Geography by Clements R. Markham, Natural Science by Alex. Geikie, Natural History by Alfred R. Wallace, Politics and Social Science by Thomas Hughes, is good collateral security for the faithfulness of the work, and an assurance to the reader of the authority of the statements made.

Brief book notices, if they go beyond the external characteristics of the book, with statement of its purport in the author's own words, should be of equal authority with the longer articles, and not merely a mechanical performance. An admirable example of this I find in a recent notice in the "Christian Union," by President Seelye, of Bain's "Education as a Science,"

which gave, in twenty to thirty lines, a better critical estimate of the book than would often be found in a two-column article. The successive issues of the educational journal should certainly give a very complete bibliography of educational publications.

The book announcements of the educational journal should comprise from week to week complete selected lists of all best books. "The Publisher's Weekly" and the "Title Slip Registry" of Leypoldt, and other bibliographical publications, — publications beyond the reach of most teachers, — are examples of what these should be, and furnish material for them. Critiques, book notices, and book announcements should depend not upon what happens to be sent in, but upon what is published.

The library is recognized as a necessity for every school; but whatever the necessity, libraries will not be generally found until teachers know more of their management. Hence library economy must receive due recognition in the teachers' journal. No great amount of space need be given to this, but no teacher can have read the successive issues of the "Library Journal" without noting much which would be of use in any school.

The relation of the educational journal to methods of administration and instruction demands careful consideration, if it would supply the daily and most urgent need of the teacher, and here lies one of its greatest responsibilities. All of these methods must be tested by reference to principles. The school is a larger family and a little state. Whatever will wreck either of these will wreck a school. Our books treating of this department of the teacher's work are few, and the

average quality far from satisfactory. Most of them are evidently prepared as manuals for graded schools, and often tend to form that very poor teacher, a merely grade teacher, content with her routine work, asking not by what paths her pupils reached her room, nor what paths they are to follow after leaving it, squaring her work rather by the regulations of the committee than by the eternal laws. It will be long before we have such a work as Diesterweg's *Wegweiser*, kept up in successive editions by a society of eminent teachers of Germany in Diesterweg's honor and under his name. Yet no better teachers can be found in the world than can be found in school-rooms in our land. These teachers have wrought out, by study and long experience, methods which would be of infinite value to the profession; but they are unused to writing and careless of fame, and hence the peculiar beauty of their methods often remains unknown beyond their own schools. Much has been said of late years of the Grube method in arithmetic. It is our fault that this method came to us as a new one. I know teachers who, years ago, starting upon a basis laid by Dana P. Colburn in a little book now out of print, had wrought out a method essentially the same as Grube's. When Mr. Soldan's presentation of the Grube method appeared in the St. Louis report, one of these teachers examined it, and said, "Our method contains the same principle in a better form." These teachers' patient work was of little benefit to the profession, in comparison with Mr. Soldan's. It is the work of the educational journal to seek out and put in form the best methods of the best teachers at home and abroad, as carefully, comprehensively, and critically as the scien-

tific and technical journals present new discoveries in science and new processes in the arts. Here more than anywhere else is consummate skill in editing demanded ; for anything false or crude, presented without the correction in criticism, may do infinite harm. Every successive number of the journal is a teacher exerting a wide and mighty influence for good or evil, and all which is ever said of the responsibilities of the teacher is true, multiplied many times, of the editor. The columns of the journal should of course be open for discussion, and for the expression of opinion ; but not for the expression of the whims and fancies of all sorts of idiots. Editorial supervision over correspondence should be sternly exercised. In no other department of journalism is there so much danger of charlatantry ; in no other will charlatantry do so much harm. It is not enough that a general disclaimer of responsibility be made, for the responsibility cannot be thus evaded.

The success of the teacher's work is dependent on physical as well as on spiritual conditions ; and these conditions the great mass of our teachers — young, untrained, inexperienced — do not understand. Those who have read the physiologies of the schools often know but little practically of the careful nurture demanded by the delicate physical organism of the child, that it may develop in beauty and in strength, and become able to bear the mental and physical strain of after life. Ill health of pupils is often charged to the school when the school is in no way at fault ; yet every teacher of experience knows that there are very many cases in which shortened, useless, miserable lives result from unfavorable physical conditions at school which could

have been removed. To-day I am almost nauseated when I think of the sickening stench which filled the rooms and halls of a large city grammar school of 1,200 children, visited years ago. The building was amply supplied with *cold ventilating flues*, but no air ascended in them. How long must it be before all parents and teachers understand that the order of development of physical and spiritual power is for all children and in all time as it was for the child Jesus as stated by St. Luke? "And the child grew, and waxed strong in spirit, filled with wisdom: and the grace of God was upon him." The subject of school hygiene has been a leading one before social-science associations for a few years past, but it has been strangely neglected by teachers; it does not prominently appear in our educational literature. Physical education in all its aspects, the conditions of mental and physical health, — school hygiene, — should be fully treated by the educational journal, and only when it is thus treated may we expect to see real improvement.

The success of the school is more closely dependent upon the school-house and its furnishing than is often supposed. It is undoubtedly true that some of the finest examples of school-house architecture in the world are to be found in our cities; though even in these, pure air is seldom or never found, and in the arrangement of light it is thought best to sacrifice the pupil's eyes to his drawing lessons, and the girls are slowly murdered by climbing stairs, and the cost is largely increased: and to balance this, libraries and apparatus are stinted, and teachers' salaries reduced, that architect and building committee may make a brave show of towers and of architectural ornament. In our

larger villages, model school-houses are often found. The best forms of American school furniture are the best in the world. But the school-house of the smaller village, and the New England country school-house and its furniture, remain about the same from generation to generation. The school-house architect does not reach these; the country carpenter knows nothing of the special needs of the school; the furniture has to be home-made, the maker has no good models, and has never seen a human spine nor thought of its probable form. In this respect we might have learned much from the foreign educational exhibits at Philadelphia in 1876: it is a question if we have put in practice anything there learned. No one will deny that the Swedish and the Belgian school-houses there shown were much better than our common type of small village and country school-house; yet it would be difficult to show a case in which any features of these have been adopted. Our State superintendents could have done much which they have not done to disseminate among the people better information in regard to these matters; the school journal must do it. School officers are often desirous of information which teachers are not qualified to give.

We have hardly begun as a people to appreciate the importance of objective teaching and of illustration in teaching. The case stated by a State agent in Massachusetts, in which he showed a teacher by marking upon the floor what he might do with a blackboard if he had one, is an extreme case; but most country schools are still almost or entirely destitute of apparatus, and in many cases teachers do not know how to use it. School apparatus has been made so expensive

in ivory and mahogany that it has been beyond the reach of most schools. The Russian pedagogical museum at Philadelphia was a surprise to most who saw it, and it is, no doubt, in part due to this that since 1876 the attempt has been made, to a certain quite limited extent, to devise simpler and cheaper apparatus. The scientific journals and the best text-books strive to present simpler and more effective modes of experiment. The educational journal should focus all this upon the teacher; should select, adapt, and present the best modes of manipulation, experiment, and illustration, in all grades from primary school to college.

The prime object of the educational journal is to advance the cause of general education; and hence it must appeal to the educated class who are not teachers as well as to those who are. Parents must receive from it guidance as to the best modes of home culture; the children must find in it their page with reading like "Babyland" and "Nursery" for the little learners, leading out to science, to history, and the world by pleasant ways; it must reach from nursery to university.

Teaching is not yet a profession, in the sense in which engineering, medicine, and law are such; and hence we cannot have our strictly professional journal as they may have, for we should thus fail to reach a large class whom we especially wish to reach. We must enlist the co-operation of all the cultivated classes. Our journal should be in the highest sense a journal of civilization, dealing with questions of culture in such a way as to make it alike welcome to study, family, and school. Its summaries of intelligence should be comprehensive, its outlook upon the world in all its phases intelligent and clear.

Thus far the educational journal has been considered mainly with reference to its relation to the internal working of the school. It is hardly possible to exaggerate the importance of this line of work ; but it is still more important that the civil and political aspects of the educational question should receive adequate treatment, for this touches the life of the system itself. While we try to improve, the system itself is in danger from false and partial views, from sectarian jealousy, from selfish politicians, from political and economic *doctrinaires*.

There are but few who would attack the system as a whole ; most of those who attack this and that feature of it, profess high regard for a school system : but if a man be slain in his heart, it is fruitless labor to strive to keep the life in his head and his feet. The widespread hostility to high schools ; the attacks upon normal schools, often renewed though often defeated, resulting not in their destruction but in serious embarrassment in their work ; opposition to educational work and progress in various ways, causing friends of education to expend in defence energy needed in advancing their lines to new conquests, — all these hindrances to the formation of a complete and perfect system call for energy and watchfulness on the part of friends of education, at least equal to that of its foes.

Hence an American educational journal should be the uncompromising advocate of the fundamental principles of the American free-school system. Is there a settled body of doctrine on educational subjects such as to make it possible to have such an organ for its expression ? This question may naturally be asked by those who watch merely the current discussions of

educational questions in theological and political and sometimes in literary journals, and among people who have little knowledge of the questions discussed. Not thus do we come to a knowledge of the truth. Medical associations do not look to the bar for advice and opinions as to the interests of their profession; the Board of Trade does not go to the agricultural society for instruction, nor does the farmer guide his work by the opinions of the Board of Trade. For many years I have followed pretty closely the current of educational discussion in associations of teachers and in the literature of the profession, and all will admit that from these discussions, from the annual publications of this Institute and of the National Educational Association, and from official school reports, we may gather the soundest, calmest, most carefully considered educational opinion of this country.

In the essentials it is all in one line. It is the record of an advance; of the striving of truths, at first held hardly consciously in the public mind, out to articulate expression, to formulation in bodies of law, in organizations and institutions. And this expression becomes from year to year clearer and stronger. The advance is not a continuous advance. Among the mists of the valley we often lose our way; among the foot-hills we must sometimes apparently descend in order to get on; but our course steadily changes from wandering to a march as we ascend to the regions of clearer vision and of purer air.

Yet, notwithstanding this definite body of belief and truth, the contest between the opposing forces seems to be an unending one. Old opinions, which have been met and vanquished again and again in fair fight, are

brought forth again and again by new advocates, believing, in their utter ignorance of educational history, that they bring an original contribution to the thought of the world. And too often these fresh presentations of old untruths do great harm, because they are not promptly refuted. The great mass of our teachers are at all times inexperienced and unread in the literature of their calling, and hence are not themselves able to detect fallacies and falsehoods. Our legislators are too often utterly unqualified to legislate upon educational subjects; and our people, even wishing to do the right thing, often inadvertently do the wrong. Hence the educational journal should be the advocate of as definite a body of belief as are our political and religious journals. Our teachers greatly need practical instruction in regard to the performance of their daily duties; but they much more need sound theory as a guide to practice, and a clear knowledge of the principles upon which our system of education is based. The best way in which this body of truth can be brought home to teachers is through the journal. Every political party, every religious sect, — every cause, in short, which has any appeal to make to the public, — depends mainly upon the advocacy of the press; and such advocacy is necessary that the truth on any line may advance.

The educational journal should do more than make a profession and repeat a creed. It should bring all new measures and views to the test of established truth. It should closely scan the social and political horizon for the rising of any clouds threatening the cause. It should be watchful for danger, vigorous in defence, prompt in attack. It should not strive to be merely a

general organ of sweetness and light, but to organize a party for the understanding and advocacy of a definite body of truth, for the establishment of a higher condition of educational righteousness. *Some things are proved.* From God's holy word new truths are yet to be revealed ; in all the kingdoms of nature new discoveries are yet to be made ; philosophy has not laid open to us all abstract truth, nor sounded the nature of man ; in the science of education we see as yet many things through a glass darkly ; we have gathered some pebbles washed up from the depths of an infinite ocean ; we hold some lines of light the farther ends of which we cannot see : yet there *are* such things as religious, as scientific, as philosophical, as educational truth, which can no more be controverted than the facts of human consciousness, and no more be disturbed than the foundations of these everlasting hills. The right of the child, whether born in hovel or palace, in vice or in virtue, child of the State as well as of the home, citizen and therefore sovereign, as well as subject, of the future free State, to the highest and truest development of his manifold nature which his years of tutelage will allow, limited only by the power of the State to give and his power to receive and appropriate, is a right too sacred to be trifled with. The order of development of human faculties, the material and spiritual conditions, and in general the modes, of this development, the character and preparation demanded in the teacher, the mutual rights and duties of teacher, of parent, of the child, and of the State in this work, constitute a body of truth, slowly and toilsomely wrought out as the

“Thoughts of men have widened
With the process of the suns,”

•sufficient for the foundation of the completest system of education. None must be allowed to abridge this right nor to act against this truth. The question of public education is a question of statesmanship as well as of culture, and the faithful teacher of either sex must be a politician in the highest sense of that much-abused word. We must inform ourselves in regard to all the civil and political bearings of education, by observation, by study, by intensest thought; and in this work the educational journal must aid us by collation of facts, by collection of statistics, by presentation of argument, by making accessible to us the results of historical research. We must encourage the journal to do this by our names and our money. The duty of preparing ourselves to face these aspects of the question we have evaded too long. Influences are working in American society and politics which allow us to hesitate no longer. The question of paramount importance is not the weight of the dollar which the law of the State decrees, but the character of the soul which the institutions of the State shall form. I would not depreciate the importance of State finance, but there is honesty and dishonesty in a higher than the financial sense; there is robbery of things more precious than gold; there is murder, too, of infinitely darker dye than that by shot through heart or brain, when the child of vice and crime is denied by cultured heartlessness and indifference, or by political demagogism, that nurture and education which alone could save him from the fate of his birth. In the hands of the teacher in an especial sense are the destinies of our future. Our country is to be the seat of an empire grand beyond all precedent, or the scene of a ruin and a disappointment

of human hopes unparalleled. Our work enters largely into the accomplishment of the one or the other result. We, and all who work with us, cannot evade our responsibilities if we would. The parent is our client, the child is our ward. God is our judge. We must not only do our individual, daily work thoroughly and well, but we must take care that it be not hindered nor marred by the meddling of knaves nor the blundering of fools. When the question is one of educational policy, teachers must demand a hearing and compel respect. We have been buffeted long enough. We have been smitten on the one cheek and on the other, and neither common-sense nor holy writ demands that we endure further. With our numbers and the intelligence that we ought to possess, and such re-enforcement of parents as we can secure, we can dictate terms to our opponents. The ignorant we must inform. The assault of the advocate of class education upon any established educational truth, and the covert attack of the cultured aristocrat, must be promptly met and silenced by the invincible logic of reason and of facts. When the political demagogue dares to lift his sacrilegious hand, he must be met by an indignation that burns white hot, and overwhelmed in a political death beyond the reach of any resurrection.

To aid teachers in this work, so arduous and so imperative, to which the present welcomes and to which all the future calls, they must have the educational journal to furnish them with arguments to repel attack, to bring them into alliance with their fellow-workers, and to show their relation to the grand work of human enlightenment. It will lift them above the discouragements of their daily toil, remove from them the sense

of isolation and weakness which so often causes them to yield to despair. Through their united support it may be elevated to the highest type of journalism ; and then, through it, teachers may feel their power and make their power felt.

LECTURE VI.

ECLIPSES OF THE SUN.

By PROF. C. A. YOUNG,

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[NOTE.—In justice to himself and the reporter, the lecturer wishes to make it a part of the record that a few minutes before the time, he learned that the hour and a quarter which had been assigned for the lecture would have to be reduced to less than fifty minutes. This will explain the peculiarities of treatment, or rather want of treatment, of some of the most important topics relating to the subject, and the almost unreportable rapidity with which he was obliged to speak.]

ABOUT a year ago I was one of a party that went to Denver, Colorado, to get a view of the eclipse of July 29. The Rocky Mountains there stretched before us their snowy summits for one hundred and fifty miles to a height of from 13,000 to 15,000 feet, affording a view such as can hardly be found elsewhere. At times they were a great annoyance on account of the rain-storms which formed among their peaks, but this day was perfect. About two o'clock the astronomers began to put up their glasses and look. In a few minutes we noticed upon the edge of the sun a little bite. The dragon had begun his meal. The light soon began to diminish sensibly, and continued to do so for three quarters of an hour. In about an hour nothing remained but a narrow sickle. In a few seconds more somebody called, and we looked over toward Long's

Peak, and saw the shadow coming; and before we knew it, it was upon us. Instead of the sun in the sky we had a black, inky ball, surrounded by a silvery corona, the most beautiful and impressive of all natural phenomena. Of course every one was silent; nothing could be heard but the tick upon the anvil of the man who was keeping count of the seconds. In about two minutes the light burst out again, and gradually the landscape resumed its old appearance.

I hardly need tell you of the cause of such phenomena, nor that we have accounts of them dating back to the remotest antiquity. Two thousand one hundred and fifty-eight years before the Christian era, on the thirteenth of October, one occurred in China, — the earliest on record. Two astronomers royal to one of the Chinese emperors of that day were seized and executed for failing to predict it. From that time down there have been more or less continuous records of this kind.

Now as to the cause of an eclipse. That of the moon is caused by the shadow of the earth; that of the sun, by the intervening moon. As these bodies move in the sky, each one carries a shadow with it. If the celestial spaces were slightly hazy, we should see each heavenly body carrying a great tail like a comet, only dark, not bright. As things are, however, we ordinarily see nothing of the shadow; but if an observer passes into the shadow, he loses the sun. There are three different kinds of solar eclipse, — the total, the annular, and the partial. The partial eclipse is of no particular importance, except as a test of the accuracy of astronomical calculations. An annular eclipse is a little better for astronomical purposes, but not much;

for if but a hundredth part of the sun remain uncovered, the obscurity is so slight as to be hardly noticeable. But when the sun is wholly hidden, then we are able to see and study the surrounding wonders of the corona and solar atmosphere, which at other times are concealed by the dazzling brightness. As the moon comes around to the new, it passes very nearly between us and the sun. If she moved around on the same level as the earth, we should have an eclipse every month. But the path of the moon is tipped a little, which makes it pass sometimes as much as ten diameters north or south of the sun's path. Now the nodes of the moon — crossings of the sun's path — are situated in two opposite parts of the sky. As the earth goes round the sun, it passes these nodal points twice a year. The inclination is so small that there is a space of about eighteen days on each side of either node that an eclipse may occur, and it follows that twice a year we are sure of an eclipse, — which, however, may be only a partial one, — and we may even have four; indeed, five sometimes occur. Such was the case in the year 1823. It happens in this way: I said the two nodes of the moon were situated in opposite parts of the sky, but this is not strictly exact. The moon's orbit is skewing around in this manner [illustrating by gestures], and the next time I mark the node it has moved towards the west nineteen and one half degrees. It shifts clear round in nineteen years, so that it takes the earth only about three hundred and forty-six days to come round from one node to the same again, or one hundred and seventy-three days between the nodal points. And so we may get five eclipses in one year if the first comes in January. Another thing —

a bit of ancient knowledge, but important: there is a period of eighteen years and ten days in which eclipses recur. If we reckon the time occupied by the moon in two hundred and twenty-three lunations,—lunar months,—we find it makes 6,585.32 days; and nineteen complete synodical revolutions of the node amount to 6,585.78 days. They come out so nearly equal that we know that in 6,585 days from any eclipse, there will be another. It was in this rough way that the Chinese astronomers who lost their heads on the occasion I have mentioned should have made their calculation. But now, astronomical theories of the earth and moon are so perfect that the phenomena of eclipses are predicted with wonderful precision, even to a few seconds of time; the exact dimensions, and precise spot where the moon's shadow will be seen on any part of the earth, are determined years in advance. As examples of the recurrence of an eclipse, there was one in 1806—I don't suppose any one here saw that eclipse,—a great eclipse, the track of which passed through New York and New England. I think it was seen as far north as this place, even. In 1824, on the 18th of June, it recurred in the Pacific Ocean; and in 1842, on the 8th of July, it recurred in France and Spain. In 1860 it occurred again, struck the United States in Oregon, and passed through Labrador. In 1878—this last year—it occurred once more. It struck Asia, crossed British America, a part of our western country to Colorado and Texas, and so out into the sea.

You notice the nodes do not occur precisely at the same place, but move towards the west. The consequence is that at the end of eighteen years the sun is half a degree farther west, and the eclipse has some-

what altered its character. At the first appearance of the eclipse, the moon's shadow just grazes the pole of the earth; eighteen years later, at the next recurrence, the shadow strikes lower down; and in about six hundred years reaches the centre of the earth, receding to the other pole in the next six hundred years. In such a series of eclipses of the sun, only one quarter are total. Of the others, some twenty-seven are usually annular, and twenty-two are partial eclipses, visible only at the poles of the earth. Before the days of steam, it was an unusual thing to see a total eclipse, for it is within limits to say that one does not occur once in a hundred years at a given place. As to the size of the track over which the eclipse is visible, or the size of the moon's shadow on the earth, it may be about one hundred and sixty miles in diameter. That is the largest possible size. Its average diameter may be about one hundred miles. The shadow moves over the earth at least 1,000 miles an hour,—at the rate of a very rapid cannon-ball. The shadow really moves about 2,000 miles an hour, but its apparent motion is only about half that, as the earth itself is rotating about 1,000 miles an hour.

Now as to eclipse phenomena: perhaps it is worth while to speak of their effect upon animals. Those animals which retire at sunset usually do so when the darkness begins to be noticed, and are much perplexed by its suddenness. The oddest thing during the eclipse of 1869 was to notice a flock of geese—I saw them myself—start for their sheds in the strangest confusion. The effect of last summer's eclipse upon the Pueblo Indians was such that one of them at last ran in for his gun and fired at it. The sun came out

at once, and his tribe thought him a great medicine-man, who had averted the danger, — caused the eclipse to pass away. The Chinese to this day go out with horns and pans and try to drive off the devouring creature.

One of the curious effects of an eclipse is that of the dancing shades over the ground. Generally speaking, these stripes stand at right angles to the track in which the eclipse is moving. Some have a width of from two to three feet. I do not know what the explanation is. It is something that needs further investigation. I think it depends upon our atmosphere, in connection with the fact that the light comes from a single row of points. I think it connected with the twinkling of the stars.

Looking at the eclipse with the naked eye, one sees on the edge of the moon, bright red spots, — the so-called red prominences; great masses of incandescent hydrogen, in which there was formerly greater interest than now. The phenomena, however, which at present require most investigation, are those upon which the explanation of this corona depends. We know as much as this, — which was not known formerly, — that it is a purely solar phenomenon; that this streaming radiance is at the sun. The spectroscope shows it to be heated gas; not hydrogen, but some unknown substance. It is not known in our atmosphere, but only at the sun. We need to study this much more elaborately than we have yet been able to do.

Then, besides the visible portion of the spectrum of this corona, there is an invisible region. The eye takes in only a certain range, as the ear takes in only a certain range of sound. There is light so blue it is

beyond our vision; and some rays so red we do not reach them. At the last eclipse we were in hopes of reaching them by the help of Mr. Edison's tasimeter, but that invention did not prove a success for our purpose.

I suppose you know of the spots on the sun. A few years ago we could always find from ten to fifty; this year there are almost none. We have found this fact in regard to them: that when the sun spots are few, the bright lines in the corona spectrum are faint, or wanting.

It is desirable to separate the chemical elements of the corona, ascertaining what belongs to particular parts of it. It is quite probable that the streamers are of different constitution from the rest of the coronal matter. Some believe they are masses of meteoric matter which passes around the sun, lighted up by his rays. But I do not think this is so. I think these sun-streamers will be found more nearly similar to those of the aurora borealis. I do not suppose they are the same. I want distinctly to be understood as saying that there is no ground for claiming that the substance of which the corona is composed is the same as that of which the streamers are composed, though the phenomena seem to be somehow analogous. This corona is on an enormous scale. An angle of one degree at the sun's distance is a million and a half of miles. At the last eclipse these streamers were visible to a distance of nine millions of miles from the sun.

But the pictures upon the screen will give you a better idea of the phenomena than any words.

LECTURE VII.

THE PLACE OF THE STUDY OF LATIN AND GREEK IN MODERN EDUCATION.

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WE are prone to believe that to-day is, in some peculiar sense, the crisis of our lives. The present year is likewise regarded by our people as making an epoch in our national history. We cannot very well help this inordinate estimate of what is present, immediately before us; for we are particular individuals, living, each of us, in a now and here. Each one of us finds himself a focus of the entire world, so far as he is concerned. So, too, the people of this nation are all living on this particular day of all the days of the history of the United States, and at this particular hour and minute of this particular day, and in this part of the western continent; standing thus in relation to the other nations of the continent and to the nations of the Old World.

But while we are thus living, each his particular life here and now, we are conscious that the present moment stands in relation to all the past. It has grown out of the past; and as that which grows contains in some form the seeds or germs or undeveloped possibilities of what is to grow from it, so we must

regard the past as having contained the present, — at least its possibility.

It would seem, therefore, that the present is the ripest growth of the tree of human history, the completest realization of the possibilities that were contained in the times gone before us. But inasmuch as all nature exhibits to us a cycle of birth, growth, and decay, and time swallows up many forms that it evolves, we are left in doubt as to which existences around us are permanent and which are transient. If the present is indeed the product of the past, it is likewise only the undeveloped germ of the future.

Thus man, as an individual, finds himself in the passing phase of a vast process descending from eternity and moving on to eternity. This process itself is a revelation of infinite existence; for each moment of it is a revelation of the nature of the process. All that has been realized in the past is measured now by the standard of the absolute ideal of history. What is found wanting and incomplete by this standard must change. Something that it has must be outgrown and must pass away in order that the ideal may be realized. But nothing passes away except to realize more perfectly the ideal which is the active cause of the process. The change which has produced the transient existence before us was therefore a manifestation of the cause of world-history, acting upon some previous transient existence and destroying it or removing it, so that its place might be filled by another existence. This new existence is the joint product of the ideal—the ever-active cause of all history—and of the realized result of the past: hence the new existence, in the nature of the case, must be a more concrete realization of the ideal

of history ; it is a new realization by the action of that ideal upon what had already been realized.

Hence, our doubts are partially removed as to our whereabouts in this vast sea of change and active process.

Every now, every present is produced from the past by the activity of the cause of all causes, the absolute ideal, and is a new revelation of this absolute cause upon the field of time and space. That which is transient and passes away, manifests, in thus passing away, the great ideal of all history. Just as we can tell the direction of a river by watching the displacement of its particles, just as we can tell the goal of vegetation by watching the succession of its forms, so we can find in the movement of history, as a whole process, a revelation of its goal ; and by observation of its minutest phase of manifestation, we may, after we have learned the law of history, likewise discover that the absolute ideal is revealed in each and every moment.

Just as Cuvier, after he had learned the laws of comparative anatomy, could draw with some accuracy the whole skeleton of the animal from a single bone of it, and could tell something of its habits, food, climate, and surroundings ; just as Agassiz could describe the fish from one of its scales ; or Lyell could write the history of a newly discovered bowlder, and map out its track from a distant mountain range under the glaciers of the Drift Period ; or again, as an ethnologist is able, from a glance at the weapons used in battle by an extinct people, to tell approximately their degree of civilization, and their achievements in the arts and sciences, and their form of government ; or still further, as a philologist could tell the stage of civilization of a people from

an inspection of its vocabulary of words and the conjugation of its verbs; or as a psychologist could tell much more than these things by studying the highest thought of a people as involved in its conception of God, — so it happens, when one has habituated himself to the observation of the workings of Providence on a grand scale, that he can more and more discern the same purpose in minute affairs. Plato, Aristotle, Leibnitz, St. Augustine, Dante, Bossuet, Shakespeare, Bacon, Kant, — such men seem to have this gift of discerning the whole in the part, and are therefore seers or prophets. Availing ourselves of their insight into the world of nature and of human history, we may lift ourselves above the doubts caused by our discovery that we are finite particular existences here and now, and involved in change. By this we may more and more discover the permanent under what seems transient, and recognize the eternally true, recording its nature both in creating and in destroying the existences which seem to perish.

This view of the attitude of the individual in a world of change finds its illustration also in each special vocation of man, and consequently in the vocation of the teacher or “educator.” The “educator” finds his vocation subject to changes, both internal and external. If he arrives no further, in the process of reflection upon his experience, than to discover the existence of this change, without discovering its law, then he will be exposed to distressing doubts, which may paralyze his activity or render it nugatory by wrong tendencies and mistaken efforts. He who does not see the law of the movement may fly off in a tangent at every turn.

The teacher is still more annoyed by the interference

of those who have to do with the direction of the educational system, — the school as an institution, — but who are not acquainted with education as a vocation, knowing but little of theory and practice, and still less of historical tendencies and growth. There is great difficulty in preventing them from shooting the system of education first on this tangent and then on that, as the caprice of the moment may dictate.

Progressive growth is a great thing, no doubt; but increase in numbers is only quantitative progress, and not a qualitative advance towards ideal perfection. Change in the course of study, in the methods of instruction, in the organization of the school, may be only change and no progress, or it may even be retrogression.

We have this consolation when we see a movement in a wrong direction: its result will be the experience that that road is not to be taken. Those who survive the results of the experiment will return to the king's highway of rational progress, and set up some sort of pillar with the inscription, "This way leads to Doubting Castle, which is kept by Giant Despair, who despiseth the King and his celestial country, and seeks to destroy his holy pilgrims." Although many are destroyed by wandering from the path, there is gain of experience by the race. The loss to the individual is just as great, however. Rational insight can save all this vicarious sacrifice, by which the individuals perish on wrong roads, dying with the only positive result that the rest of mankind profit by the experience gained through their adventures.

In so far as by theoretical investigation and discussion we can discover the true path and publish it to the world, we shall save the waste attendant on experiment.

Scientific investigation involves (as already intimated) the study of a thing in its history: what it is now, what it was, how it originated, how it came to change to what it is now through its relations to surrounding things, how it is changing now by reason of necessary changes in the function which it has to fulfil. Such scientific investigation yields insight valuable for the direction and management of affairs.

In the system of education there offer for scientific investigation two great fields or provinces: *First*, that of organization and management; *second*, that of the *course of study*. To the former belong all matters relating to school-buildings, assignment of teachers, regulations of hours of study and recitation, discipline, and classification. To the latter belong all matters appertaining to the selection and arrangement of the branches of study.

Passing by, for the present consideration, the important questions included under *Organization*, let us devote our attention for a brief space to the rational basis for the selection of a course of study, and trace in some detail the grounds for those studies upon which there is most doubt expressed.

It is generally agreed that instruction in our schools should include only such rudiments as are common to all provinces of education. Since man's world is a twofold one, — a world of nature and a world of human institutions, — it is necessary that the branches of the course of study should include those which afford insight into these two realms.

First, therefore, there are the branches which give insight into the phenomena and laws of nature, and

the relation thereof to man's necessities, and the mode of reducing them to his service.

The most fundamental science of nature is mathematics. What is common to all nature as the logical condition of its existence and functions, is mathematical law. Mathematics formulates the nature of time and space. It is obvious that man's control of nature is conditioned upon a knowledge of mathematics, and that a knowledge of mathematics is useful to every human being. Human society gets free from material bondage to nature, from its necessity to work servilely for its food, clothing, and shelter, by discovering the science of nature, and through art converting nature into a thrall. To nature belongs man's body, not his soul. His body is pawned to nature, and to redeem it he must labor for food, clothing, and shelter. By his spiritual faculty of intellect, he discovers the laws of nature, and the means whereby he may compel nature to supply the wants which arise from nature. He compels natural forces—steam, water, animals—to toil and provide food, clothing, and shelter that he needs as a natural being; and thus he emancipates his soul from thralldom to his body. Another condition of matter is extension,—separation in time and space. By subduing electricity he converts every *where* into a *here*; by the printed page he converts every *then* to a *now*.

Mathematics,—say arithmetic and geometry,—the science of time and space, belongs therefore to the rudiments of education of each and every human being.

So, too, natural history, which studies the organic beings in the world,—plant, animal, and whatever grows and develops in the world; physics, which investigates the properties of matter in its inorganic

aspects, as masses or as molecules : natural science, as including natural history and physics, is conversant with man's development as a physical being, and with the supply of his wants, and with the acquirement of freedom for spiritual development. Hence, like mathematics, these sciences of nature belong to the proper education of each and every human being. There is now very little contest over this question. What contest there is relates chiefly to their sequence and the rank which they should hold in the course of study, the time of commencing and concluding them.

On the question of the studies that relate primarily to man, there is a far greater diversity of opinion ; and in this field, too, there are the most injurious experiments inaugurated. This fact is what might be expected from a knowledge of the characteristics of the two worlds which man has to deal with, and by education to prepare for. There is a radical difference between the modes of existence of things in the world of nature and things in the world of human institutions.

In nature, as such, we find a separation of species and individual, in such a manner that the immediate existences or realities of nature are particular examples of the species, but do not contain within themselves (as individuals) the power of the universal, the power of realizing the entire species. Hence nature is a world in which the species lives and the individual dies. But a universal that exists in such a state of opposition to the particular individual is only an abstract universal, and devoid of concrete realization ; for it has no existence apart from its perishing manifestations.

But on the contrary, in the world of man as a spirit-

ual being, the particular and universal are united in the individual, so that the individual possesses the possibility of the entire species within himself.

Thus it is easy to have, in some sort, a knowledge of nature, even with the lower and lowest faculties of the mind. Sense-perception, with its five organs, may apprehend the various objects in time and space. Reflection in its various degrees may cognize their species and genera, and formulate the abstract laws of their origin and decay.

But sense-perception cannot perceive any true individual in which particular and universal are united. Things of mind are not limited through each other, as things of nature are; they are self-limited, *self-determined* beings. Hence, things of mind can be apprehended only by reflection, and not by sense-perception.

All human institutions, — the family; society, with its complex of reciprocal relations, by which industry is carried on and its products collected and distributed, and by which ideas and experience are amassed and communicated; the State, which secures to each man the fruition of his deed, so that he becomes a free being and responsible for what he does; the church, in which he celebrates his recognition of the absolute ideal as the Conscious Creator of Nature and Man, — all human institutions are invisible, imperceptible things to the senses, and cognizable only by reflection.

Man himself, as true individual, unites particular and universal in one, and hence is conscious. He is therefore capable of education and self-development. As particular he knows himself to be here and now in this present moment, and as Ego he is universal and potentially in all heres and all nows. Reflection is

the mental activity by which he ascends out of sense-perception, which is limited by the here and now of the present moment, and makes for its object the activity of the Ego, which is universal or general. Hence, he can make general forms of activity or processes his objects, as well as he can (like the mere animal) make things of nature the objects of his senses.

Corresponding to man's power of reflection, which is a theoretic power that cognizes species, genera, classes, generic activities or processes (whatever one may choose to call them), there is likewise the practical power of realizing universals: this is the will.

As will-power, man can give reality to his general ideas by organizing them into institutions that embody active processes within them. He can, moreover, utter these ideas in symbols. For the purpose of symbols he uses natural things, and gives to them a conventional meaning. This symbolizing activity of the will is man's artistic or æsthetic power; and so important is this power to the comprehension of man, that Aristotle (the profoundest of scientific minds) has defined man as the symbol-making animal.

Man as educative being is such through this power to express his universal or generic being (that which appertains to his Ego, the root of his personality) in particular objects as conventional symbols, and to realize the same in institutions.

This symbol-making activity makes not only works of art, — the works of architecture, sculpture, painting, and music, — but it makes also the word and creates language; and herein is the reason for the introduction of this necessarily subtle disquisition upon the nature of man's spiritual activity.

By common consent, the study of languages has been made the central branch in the course of study in the schools of all nations that have schools. It is moreover taught in the form of several branches, beginning as orthography (reading, spelling, and writing), etymology (treating of the forms and variations of words), syntax (the combination of words to express thought), prosody and rhetoric (the use of language as material of æsthetic art). The science of language is common to all human culture. Mathematics enables man to combine one object in nature with another, and to produce a machine and to gather natural products for human use. Language enables one man to combine with another, and thus to participate in the experience and wisdom of his fellows. Just as it is a necessity of all men to use nature to supply their natural wants of food, clothing, and shelter, so it is a necessity of each man to combine with his fellow-men, and to use their experience and wisdom.

Mathematics and natural science, — combination of natural things; language, — spiritual combination: these are the rudimentary branches of human culture, and they form the two essential branches of intellectual education in the school.

Let us consider for one moment, in detail, this instrumentality called language; for there have been educators who failed to see its paramount importance in education. They have figured the subject, rather, under the following aspect: They have divided the world of knowledge into *words* and *things*; all science of language should deal with words, all other science should deal with things. It is obvious, say they, that the science of things is more important than that of

words; and that we should have more of the science of things in our schools, and less of the science of words.

This plausible view of education attracts one chiefly for the reason that it ingeniously suppresses the antithesis of nature and *human* nature, under the ambiguous word *things*. It includes under the term *things* not only material objects in time and space, but also the immaterial, spiritual products, such as arts, institutions, scientific and religious ideas, — all human combinations, in short. But when the word *thing* is used, it calls up to the mind at once, in the foreground, material objects such as can be presented to the senses, and of which we can have sensuous images without the intermediation of *words*. Things of the *mind* hover in the background, obscured by the glare of the sensuous presence of *material* things.

What are these “things of the mind”? Not abstract ideas alone, — mere generalizations from sense-perception. These are least important. The things of the mind which have the most importance to us are those that arise from the energy of the human will. They are its creations or combinations, or at least a joint product of it with the intellect. Sweep *them* away, and you sweep away at once the entire fabric of human freedom, and man sits down in the ashes of his civilization a squalid savage, naked, hungry, and miserable. The things of the mind, created by the will and the intellect, are the ethical ideas which support like timber-work the gigantic structure of civilization. They are invisible in their essence to the senses, but their products are visible enough. What are arts, sciences, religion, the institutions of the family, the state, and

civil society with its myriad industries and protecting establishments, reducing as they do the necessary physical labor of man to a minimum, and elevating its productivity to a maximum,— what are these but spiritual things, which, though invisible except to the eye of reason, are yet more real to man than the material world around him? These are the things that he has to deal with first and last in this world, and their difference from material things is complete; for spiritual things are *potencies*, powers, substances. Before their might the world of material nature is an ever-vanishing obstacle. Reason, as will and intellect, turns the resistance which nature offers to spirit against itself, and makes it thus friendly and auxiliary. Human nature is an end unto itself, and its destiny is to make nature exist solely for human ends and uses.

This realm of things of the mind closely enwraps each human being; it is in fact the clothing of his personality, and the means whereby he is fed, clothed, and housed; nay, more than this,—it is the medium through which he sees, feels, and hears the external world. For the material world, to the new-born child and to the savage, is as different as possible from the material world as it exists for the educated and civilized man. To the new-born child, what it sees, feels, and hears is scarcely objective; it does not know where its circle of personality ends and where the world of separate objects begins; it *will* not know this until it obtains a consciousness of its will-power or responsibility, and it will do this gradually, through those mysterious mental things, the ideas of right and wrong. The savage *never* gets clear on the subject of responsibility, and accordingly never gets clear on the

subject of the limits of his own personality. This fact stands clearly marked on the dial of his consciousness; that is to say, in his religious creed. He worships a fetich or thing of nature, transferring the attribute of personality, which he finds in himself but cannot clearly distinguish, to the world of impersonal things of nature. To the savage, the mysterious world of nature is instinct with personal movement. He is never sure but at the next moment he will encounter a living personality, friendly or hostile to himself, under the guise of a natural object. The events of his life are all controlled by arbitrary, invisible will-powers; and in his ignorance of them he can only fear them, and strive to appease them by sacrificing to them something that yields him pleasure. Thus it is that in its lowest rudiments, man's observation of nature is completely mediated by the woven product of his will and intellect; he sees things of the mind in place of things of nature as they are. As man ascends out of savagery and the imbecility of childhood, he does this by deepening his thought and insight into the essence of things. He separates the permanent from the variable, and reaches *laws* as the truth of *things*. His views of nature modify as he changes his mental spectra through which he *beholds* nature. With new ideas (or mental things) he sees new things of nature. Underneath the science of the naturalist of our day, there are presupposed layer after layer of mental things or ideas, moral and intellectual; a thick deposit of spiritual growth. The separation and recognition of will-power, as distinct from natural things, is a moral growth as much as an intellectual growth; and it has its origin as much in the slow evolution of political and

social institutions as in the mere theoretical labors of such scientific men as Aristotle, Bacon, Giordano Bruno, Kepler, Copernicus, or Galileo.

Here is, therefore, the divine character of language. Language is the visible image or realization of reason, the revelation of human nature. Without language there is no revelation of human nature, and without this revelation of human nature there is and can be for man no correct science of things in time and space.

Through this possibility of reflecting itself, of realizing its image in language, reason can be incarnated in man, and he can realize within himself *human* nature and transcend the limits of brute nature. Language gives "a local habitation and a name" to the ideals of reason. All institutions of man — and it cannot be repeated too often that human nature is revealed in and by means of institutions alone — are combinations or organizations of man, united under the direction of an ideal; all combination of man with man is rendered possible only by means of language. Language is, in this sense, an institution itself, and the primary condition, the spiritual protoplasm, as it were, out of which institutions develop. A word as a sound or character, visible to the eye or audible by the ear, is an immediate thing of nature, a particular something here and now; as significant of an idea it is a universal something, a product of the combined energy of the will and the intellect, it is a truth invariable through time and space, it is all heres and all nows.

By means of the miracle of language, see what is added to the individual man! By its means the transient and variable can be seized and fixed. By its means what is for one becomes for all. The experience of one

man becomes the experience of all men, and the experience of all men is revealed to each man, by means of words. Without such combination as language makes possible, there could be no such thing as aggregating the results of experience, properly so called; the flitting moment would go by forever, and its event never be seized and retained for comparison with the next.

Human life, when separated into individual lives, is a poor affair. Thomas Hobbes pronounced it "mean, dirty, and short." It is only when the labors of each are given to all, and all are concentrated in each by means of intercommunication and organized effort, that human life means something. Each individual pursues his separate calling, assured that what he produces shall go to market, and be added to the aggregate wealth of the community, and from thence be redistributed to all, so that he shall receive his share of his own product, enriched by the addition of a share of the total labor of humanity. Thus it is in spiritual life. Each man has only to live his own life, suffer his own pain; but through communication he profits by the experience of all others, without having to risk anything himself. The toil and pain which the individual endures is only a very small affair compared with the aggregate toil and pains of the race, but he reaps nevertheless the benefits of the experience of the race without having sown it. Indeed, it is an image of that central mystery in religion called the "*doctrine of grace*." The works of the individual are essential, otherwise there would be no individual contributions wherewith to form the aggregate of experience; man's will must conspire with God's will: but all his deeds are as naught when weighed in the scale of the bounty

that he receives ; it is after all pure grace, and not for the sake of merit. The individual contribution to the aggregate of human experience is likewise so small, compared with what he receives in return, as to be quite insignificant.

The branches of the course of study which relate to man include, besides language especially, civil history, æsthetic art, and the ethical science which looks on the one hand toward jurisprudence and politics, and on the other hand toward morals and the conduct of life in one's vocation. Language-studies always involve something more than the study of mere words, for words, as significant of ideas, lead us back to the generalizations which preceded the process of word-making. The study of language is especially the study of literature, for literature is a form of æsthetic art, a product of the symbol-making power of the will. Language itself originated by the same power, for to endow an articulate sound with conventional meaning was a work of the poetic faculty.

With the discussion of the function of literature in a course of study is involved the much-debated question of classical study or the question of Latin and Greek as the basis of liberal education. The settlement of this old dispute lies involved in the question, What are insight-giving studies? and this has already been discussed to some extent.

Such reasons for the study of Latin and Greek as are based on "discipline," "exactness of thought," or the "refining influence supposed to be derived from their study," are somewhat vague and need explication. So, likewise, the assertion that they are "perfect" languages.

The Latin and Greek languages are spoken of as being "perfect" in the sense that they are complete as regards further growth, or as regards etymological inflections, or as regards syntactical organism, or, finally, as regards capacity for expression, whether artistic, scientific, or historical. This designation of "perfect" does not seem to commend itself as a substantial reason for the prominent place that Latin and Greek hold in education.

In the first sense, — that they are complete as regards growth, that they are "dead" languages, in fact, — they would have no advantages over the Anglo-Saxon, the old Norse, the Zend, the Sanscrit, or any other dead language. Nor is it obvious, at first glance, why such completeness is an advantage.

Why should we not study a living, organic growth, wherein we can trace a process actually going on? Laws are manifested and revealed to us only in the actual changes which transpire within a *process*, and not in its dead results. Again, if inflections are considered, what thoughtful man will assert that inflections are a mark of perfection? Is the Sanscrit more perfect than the Latin because its nouns and verbs have twice as many inflections as the latter? Does not maturity of spiritual development do away with inflections? Could the syntax of Greek and Latin do any more wonderful things than the syntax of Milton and Shakespeare? Could the language of Cicero express what that of Burke could not? Could the language of Plato and Aristotle express what Hegel and Fichte found German inadequate to express?

It is doubtful if any of these questions could be answered in such a way as to defend Latin and Greek

on the ground of "perfection" over all other languages.

But a better ground for classical study is urged in the fact that it furnishes, for English-speaking people, the root words to that part of our vocabulary which is more especially the language of thought and reflection, while the Teutonic or Gothic groundwork — the Anglo-Saxon part of our vocabulary — is the language of sensuous experience and common life. Hence it happens that even a little study of Latin makes a great difference in the grasp of the mind as regards the expression of generalizations and principles, and their comprehension when expressed. Without Latin we cannot perceive or feel the trope and metaphor underlying the abstract terms necessary to express all elevated sentiment or exact thought in English, and more specifically all scientific results, whether moral, legal, spiritual, or natural. Such trope and metaphor is the basis of the abstract terms, and hence the latter have been called "fossil poetry." To gain command of the resources of a language, one must revivify this poetic element, must acquire a feeling of the trope and metaphor which it contains.

This argument for the study of Latin by English-speaking nations holds good in a greater or less degree for the Romanic nations in Southern Europe; but it is not so convincing when applied to the Germanic, Norse, and Slavonic people. It is when we come to look at the study of Latin and Greek as applied to all European culture that we begin to see its truer and deeper psychological bearing.

The general principle that determines what are insight-giving studies is this: they must be of such a

character that they lead the individual out of his immediate and familiar surroundings, and cause him to breathe the atmosphere and become familiar with the accessory conditions of an earlier historical stage of the people from whom he derives his culture and forms of civilization.

Each stage of civilization is a product of two factors ; one factor being the antecedent stage of civilization and the other factor being the new social force which is active in destroying or obliterating the former factor.

Every stage of civilization goes down into succeeding ones in human history as a silent factor, still exercising a modifying influence upon them, but in an ever-weakening degree.

The education of the child, therefore, will take him out of the close and stifling vapors of feeling and desire that immediately surround him and bathe him in the rare atmosphere of the early childhood of his race. In infancy, the nursery tales that greet his awakening intelligence, and later the fairy stories and mythological material that delight his youth, are simply the symbolic reflections of the historic deeds of his race.

With the education of the school begins the serious appropriation of the classics of his people, wherein he becomes conscious, by degrees, of the elements of his complex spiritual being. He finds, one after the other, the threads that compose his civilization, — threads that weave the tissue of his own nature as a product of civilization. The Chinese youth reads Confucius and Mencius, and sees the universal type and model on which the Chinese world of to-day is formed. The Hindoo child listens to the stories of the Hitopadesa, and learns the Vedas and Puranas, and becomes conscious

of the ideal principles of his caste-system. The young Turk reads the Koran, and learns to recognize the ordinances which direct and control the every-day life of his Moslem kindred. Even the most materialistic science of our time hastens to caution us that we should never seek to know the individual by isolating him from his conditions. To know an individual scientifically, we must study it in its history. It is a part of a process. Its presuppositions are needed to make it intelligible. Only in the perspective of its history can we see it so as to comprehend it as a whole.

If a man does not know nor feel his existence, he cannot be said to live it as an independent being. The humblest piece of dirt beneath our feet pulsates with vibrations that have travelled hither from the farthest star. But the clod does not know or feel its community with the universe of matter. That universe does not exist for the clod, consequently the clod does not exist for itself. When we learn to know our entire being, it exists for us, and therein we come to exist for ourselves. It is conscious communion with one's existence that makes it one's own existence. The more complete the consciousness, the higher and more personal the being. The man who does not know his own history nor the history of his civilization, does not possess himself. His existence, as involved in those presuppositions, is not *for* him, is hence unassimilated, and therefore exists as his fate and not as his freedom. The first requisite for directive power is knowledge. Directive intelligence, as the will and intellect combined, may by successive acts forever approach the pure ideal and thus realize freedom.

When the scholar learns his presuppositions, and sees

the evolution afar off of the elements that have come down to him and entered his being, elements that form his life make the conditions which surround him and furnish the instrumentalities that he must wield, then he begins to know how much his being involves, and in the consciousness of this he begins "to be somebody" in real earnest. He begins to find himself. The empty consciousness fills with substance, with its own proper substance, and this is an act of subsumption, like that of the logical subsumption of the individual under the species, of the particular under the general. The subsumption of one's self as a particular being under the general form of the selfhood, its abstract moral laws and its realization in history, is called culture. Culture emancipates or frees us from narrow, hampering limitations which adhere to us from the circumstances of our birth and surroundings of time and space:

In unconscious harmony with these principles, the deep instinct that has guided our educators has prescribed Latin and Greek (the two "dead languages") as the chief studies in our schools for the training of the mind of youth. This has been done wisely. For the evolution of the civilization in which we live and move and have our being issued through Greece and Rome, on its way to us. We kindled the torches of our institutions, the watch-fires of our civilization, at their sacred flames. The organism of the state, the invention of the forms in which man may live in a civil community and enjoy municipal and personal rights,—these trace their descent in a direct line from Rome, and were indigenous to the people who spoke Latin. In our civil and political forms we live Roman life to-day. That side or phase of the complex organism of modern civilization is

Roman. Our scientific and æsthetical forms come from beyond Rome ; they speak the language of their Greek home to this very day, just as much as jurisprudence and legislation pronounce their edicts in Roman words.

To assimilate this antecedent stage of existence, it is not sufficient to form an acquaintance with it by reading its history or literature in translations, although that occupation is of great value. The most rapid and complete assimilation of it is to be attained by the immediate contact with it in learning the languages of these ancient peoples. In learning to think in their idioms, and to give our thoughts their forms and words, we learn to see how the world looked to them, and can readily seize and appreciate the exigencies which gave rise to their forms and usages, for language is the clothing of the inmost spiritual self of a people. We must, therefore, don the garb in which they thought and spoke, in order fully to realize in ourselves these embryonic stages of civilization. We know truly what we have lived through. We must live it in our dispositions or feelings, then realize the forms which it takes on in the fantasy, that is to say, in its art forms, and finally we must seize its principles abstractly by the understanding and concretely by the reason. The earlier stages of growth — those of feeling and fantasy — can be reached best through the natural symbolism of the *word*. Each national spirit reveals itself through language. Translation loses, in a large measure, this peculiar element of feeling and fantasy, although it retains the higher, abstract elements. But for the purposes of explanation of our own life, it is essential for us to reproduce within ourselves, as nearly as possible, precisely those immediate peculiar elements

of feeling and fantasy which constitute the germinal cell-growth of Roman and Greek character.

From the modern scientific idea of method, even that called Darwinism, we see the absolute necessity of mastering our history, in order to know ourselves. Just as the uncultivated person feels and knows his narrow circle of sensations, desires, appetites, and volitions as his personal existence, his "*ego*" or "self," so the man of culture recognizes his identity with the vast complex of civilization, with the long travail of human history. As the mystic poet has stated this fact of man's nature, —

" Man omnipresent is,
All round himself he lies,
Osiris spread abroad,
Upstaring in all eyes."

For he looks at himself through the eyes of mankind, and sees himself in mankind. History is the revelation of what is potentially in each man.

If we now inquire what the substitution of a modern language — say German or French — for Latin and Greek would effect in the education of our youth, we must first consider the fact that a modern language stands to English in the relation of co-ordination, and not in that of presupposition. English does not presuppose another modern language, as an earlier stage through which it has passed. As immediate facts, German and French stand in need of explanation through evolution, just as much as English does. Their civilizations are not embryonic stages of the English civilization, but rather repetitions of it. No one modern language is an embryonic type of another, nor does it present in its literature the embryonic form

of the civilization of another people, even though it may be an "arrested development" of its own type of civilization. To study the embryology of the butterfly, we must begin with the caterpillar and not with the mosquito; so to understand the frog, we must study the tadpole and not the toad.

Schopenhauer says : —

"A man who does not understand Latin is like one who walks through a beautiful region in a fog; his horizon is very close to him. He sees only the nearest things clearly, and a few steps away from him the outlines of everything become indistinct or wholly lost. But the horizon of the Latin scholar extends far and wide through the centuries of modern history, the Middle Ages, and antiquity."

Greece and Rome stand at the entrance to the modern world, or the occidental phase of world-history. Greece introduces the idea of *individuality* into history in place of the oriental idea of *substance*, Rome deepens the idea of individuality to that of legal person. Both nations conquered the Orient; first Greece, under Alexander, avenged its wrongs, long suffered at the hands of Persia, by subduing Asia Minor, Syria, Egypt, Persia proper, Bactria, and Western India. The Greek kingdoms in Asia Minor and Syria and Egypt were, for centuries, the seats of science. No one knows how much the East-Indians and Chinese owe to the Greeks in the way of scraps of science and art. Rome, in her career, rooted out Carthage, brought under her yoke the western and northern barbarians, and extended her sway to the east over Greece and the Greek empires. The great modern states of Europe were born in the Roman colonies of the west; they were fostered under

her code of civil laws and with such Greek refinement as followed in the wake of Roman dominion. Finally Christianity, sheltered under the Roman eagle, found its way to all lands that were destined to participate in modern civilization, and under the threefold nurture of Roman laws, Greek science, and the Christian religion, the long education went on toward national independence and a humanitarian civilization.

That mathematics and the classical languages are justly regarded as disciplinary studies in a sense that will not apply to the other studies, is pretty evident from the reasons already given. Discipline is the process by which the will is purified from the sway of appetite and caprice. In his infantile state, as child or savage, man's will is implicit, not developed, not separate from his desires or appetites. A child or a savage is a creature of impulse. To become rational, we must substitute principle for caprice, moral forms for impulses. The training requisite to emancipate the will and elevate it from the stage of impulse to that of moral activity, must needs possess the following essential characteristics : —

(a) It must occupy the pupil with what is remote from the interests of his every-day life ; self-alienation is necessary to self-knowledge ; in order to see our own dwelling in its relations to surrounding objects, it is necessary to go out of it and look at it from the outside. The atmosphere of the classic people of Greece and Rome furnishes the broad contrast to our every-day life which enables us to discriminate sharply the motives which unite to form our impulses.

(b) Inasmuch as the civilization of those classic peoples is the embryonic form of our own, as has

already been pointed out, the student of the classics has the advantage of seeing the universal or regulative forms of his life (that is to say, the laws, institutions, and usages which define his status as a human being) in their special forms and applications. He learns more readily this universal or regulative form of his life, by studying it, at first in a typical instance or example, — such a typical example as is furnished by the language and literature of the Latin or Greek people. .

The invisible garment of forms and usages that are wrapped about his life — invisible because of their general or abstract character — thus becomes visible to him, and he acquires the ability to separate his *deed* from his *impulses*, by the fact that he can think out the motives of his acts, discover principles upon which to guide his deeds, and thus, as it were, insert general or moral principles as motives between his own personal desires and his special personal deeds.

Reflection, by this, takes the place of mere instinct and caprice. By studying that which has no direct and obvious relation to his immediate interests, but which is allied to the general forms of his rational activity, the youth obtains breadth and perspective of practical insight. The disciplined mind makes its purpose a general one, and does not allow caprice, its likes and dislikes, weariness of the body, curiosity, love of ease or amusement, to distract it from its object.

Mathematics, as the science of the general relations of time and space, the conditions under which existence in nature is possible, has the same relation to the insight of man into the physical world that classic study has to his insight into the world of institutions. Mental discipline is not simply a matter of persever-

ance and industry. The object studied must bear a close relation to the rational forms of life and thought

Measuring our fellow-men by power of intellect, we rank those the highest who can withdraw themselves out of their finitude and littleness, out of their feelings and prejudices, up into the region of pure intellect, the region of unbiassed judgment, where a subject may be surveyed in all of its bearings. The thinker must be able to comprehend a subject in its entire compass, and without admixture of personal feelings.

This power of self-alienation is cultivated by the same training that gives one the power to throw himself back into the earlier or embryonic condition of the history of his people. Classical culture is the most effective means of attaining this power.

In conclusion, therefore, we may sum up our positions in regard to classic studies. Not only for English-speaking nations, but for all modern Europeans, for the reason that they have derived their culture from Greece and Rome, the special culture-studies are Latin and Greek. The embryology of modern civilization is to be found in the literature and institutions of those wonderful peoples.

While the theoretic and æsthetic consciousness of the modern world is Greek in its training and it also uses Greek derivative words as its technical terms in which to express itself in all modern languages, on the other hand, the forms of jurisprudence, political, civil, and municipal ideas, are Roman in substance and are still expressed in Latin words. The study that emancipates our youth is, therefore, that of Latin and Greek, strange as it may seem. In familiarizing himself with the manners and customs of those ancient peoples, in learning to think and to express himself in their lan-

guage, he is securing for himself a point of observation whence he can survey the present as though afar off, and see all of its elements reduced to their just proportions. In the glare of the present, surrounded by its bewildering variety, brought near by ties of familiarity and relationship, the perspective causes the relative importance of objects to be sadly misjudged. Once having discovered the illusion, doubt fills the mind in regard to the correctness of all opinions. He who cannot ascend above the vista of his present surroundings has no solid hopes.

What we call a "liberal" education, that is to say, an education that liberates one, must provide for the elimination of these defects in our point of view, by taking us back through the long, silent ages during which our civilization has been growing, and let us behold the source from which it has proceeded.

From distant Rome and Greece our too-crowded present can be seen without its attendant bustle and haste, and from the serene heights of classic art and literature we have glimpses of

"Truths that wake

To perish never;
Which neither listlessness nor mad endeavor,
Nor man nor boy,
Nor all that is at enmity with joy,
Can utterly abolish or destroy.

Truths which

Are yet the fountain-light of all our day,
Are yet a master-light of all our seeing;
Uphold us, cherish, and have power to make
Our noisy years seem moments in being
Of the eternal Silence."

LECTURE VIII.

THE PRESENT ASPECTS OF GREEK AND LATIN STUDY AND TEACHING.

By J. L. LINCOLN, LL. D.,

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I AM to speak to you briefly of the study and teaching of Greek and Latin. I confess that I shrink from trying to interest you in this old and well-worn theme, when I remember that we are gathered together in this vacation season of the year, and amid these ever-fresh and ever-inspiring scenes of nature, in which the wisdom and good taste of the directors of the Institute have fixed its sessions. I have, however, no holiday discourse to offer you on the unrivalled merits of Greek and Latin, as means of all higher education. The points of such a theme, discussed a thousand times or more, I think we may safely assume as settled. I shall take it for granted that we all agree that Greek and Latin are singularly perfect of structure as human tongues, and that the productions which yet live in them are models of literary excellence, and that their study and teaching have always and everywhere done good service in education and culture ever since the revival of learning. Granting this, we, of course, admit the general argument for Greek and Latin stud-

ies, which is common to all times. But in asking you to look at the *present aspects* of these studies, I invite you, first, to notice the *place in education* which they ought now to hold, and then *the method* with which they should now be pursued.

I. And let it be our first observation that Greek and Latin do not claim, and certainly can no longer hold any exclusive place in education, — such a place, I mean, as of necessity they have held in former times, with their old title of the ancient classics, and in which they have given the hereditary name of *classical* to all higher education, to all good letters, and indeed to whatsoever is most distinguished in its kind. The place which they once held wellnigh alone, they now share with modern tongues, later in birth and growth, and yet kindred, together with their affluent literatures, to the development of which they have themselves contributed so much quickening and moulding influence. Partners they now have in the fair commerce of learning, especially in the German, emulous, as a language, of Greek itself, in finish of structure and capacity of expression, and rich, too, like that, in lettered stores of poetry and philosophy, and in our own noble English, its elder literary treasures enriched by the added wealth of the writers of the nineteenth century. And at this we are not to mourn, as though Greek and Latin had lost their old prestige, but rather to rejoice that they have won such allies to carry on with them the educational work. Welcome such noble accessions to the flower and strength of our literary forces in training the educated mind of the age! Is there not need of the closest alliance of all truly humane studies, to temper the intensely realistic tendency which is a besetting danger

of our times and country from the predominance of scientific pursuits? This question brings me to observe that on the scientific as well as on the literary side of education, Greek and Latin studies claim no exclusive place. We all know to what a commanding influence the sciences of nature have risen in our times, what a proud distinction they have given to the age by their beneficent triumphs of discovery and application. Yet nothing could be more fatal to the existence of a well-balanced education than to put these scientific studies as newer instruments of discipline, in antagonistic relations to the older ones, so as to make either exclusive of the other. But the error of exclusiveness lies now rather on the side of the new education than of the old; and some of its supporters are wont ever to disparage and set aside the Greek and Latin studies, to extrude them from their old, or from any commanding position, and to remand them — as is said in phrase more specious than true — from the living present to the dead past, as to their own place. Such a view as this would, in its legitimate results, banish from their native homes of liberal study not only classical learning, but all literature, and establish there an education which might minister only to material ends, and at its best estate would be more narrowing in its effects than were possible for even the most exclusive devotion to classical studies. It is a significant fact that in Germany, the land of idealism and of high ideals, and where also physical science has in these times yielded by surest research the highest results, these narrowing effects upon education are felt and deplored, and by scientific men, too, as the outcome of a too exclusive prominence of physical studies. I have recently read a

discourse* by Professor du Bois-Reymond, of the University of Berlin, well known as one of the foremost of men of science in Europe, in which complaints and warnings on this head are voiced with an emphasis of tone which it were only heresy here to use, especially for a classical teacher. Listen to a translation of some of his words. "Natural science," he says, "when pursued in a one-sided way, narrows our range of vision. It limits it to the tangible, to what follows with apparent certainty from immediate perceptions. In a certain sense, we count this an invaluable excellence of the science of nature; but where this science reigns exclusive, the mind grows poor in ideas, the fancy in images, the soul in sensibility, and the result is a narrow, hard, and dry character, forsaken alike of Muses and Graces. It is also peculiar to physical science, that on the one hand it stands in relation to the highest efforts of the human mind, and on the other leads over by quite insensible gradations to mechanical work, that turns only to gain. Who now," asks our Berlin professor, with a tone of sentiment so peculiarly German as to be difficult of translation, — "who now has time and desire to go down into the deep mining shaft of truth, or to sink to repose in the sea of the ever beautiful? In a word, idealism is sinking to the ground in the conflict with realism, and there is coming in the empire of material interests." Such, then, according to this distinguished German professor, is the sore evil from which the intellectual life of Germany is now suffering. And what, think you, is the country upon the culture of which he finds

* Delivered at Berlin, March, 1877, and published in the "Deutschs Rundschau," November, 1877.

this evil most distinctly stamped, and what the choice name he gives to its influence on the culture of Germany and of other lands? Why, it is America, "the chief home," he declares, "of utilitarianism"; and the influence of that *homely* utilitarianism he designates as the *Americanizing* of German culture and of the culture of Europe. We may submit that in giving us this unique distinction, he does us honor overmuch, and we may well believe that this *American* peril is not so great or so imminent as he deems it to be. But I have produced this German witness to testify to the evil of making physical studies exclusive in education, and I find a return to the positive side of my argument in the remedy which he proposes for this evil. With a true scholar's faith, he summons to the rescue that same humanism which loosed with gentle hand the scholastic bonds of the fourteenth century, to soften with its unexhausted refining qualities the hard realism of the nineteenth. And here our German professor teaches certainly no heresy, but what I hope we may all accept as the orthodox view of liberal education. As he looks with hope and zeal to what he designates as the humanistic German gymnasium, adjusted in all its parts and workings to the wants of the times, so let us look to our corresponding institutions, similarly appointed and similarly administered, where science in all its branches, and language and literature, ancient and modern, may stand side by side, and move on together in a common educational work. And in its particular bearings upon my theme, I am ready to adopt, with my own interpretation of his terms, this distinguished writer's pithy word, "Let Hellenism keep off this Americanism from our intellectual borders."

I shall not be careful to answer his objection to overmuch occupation with Greek composition; but I heartily agree with him, that these fair humanities of Hellas ought still to preside in our halls of education, to possess our studious youth with Greek ideals of speech and letters, and that the Latian muses, too, may still lend friendly aid to train their understandings to clearness and precision of thought and style, and to awaken and form in them a sense for the prime qualities of all good writing, — correctness and perspicuity, and condensed brevity of expression.

But here I shall be asked, Granting the need of these humane studies, why travel back for them to those far-off Greek and Roman sources, to the languages of those ancient races, just as dead as the extinct races themselves? Why not derive our culture from the modern tongues of living nations, French, German, Italian, English; classic tongues, too, and which by their acquisition yield us what is useful and practical? These are fair questions, which I will try fairly to answer. And I begin with those last and much-abused words, *useful* and *practical*. If they designate an education for what is called success in life, and that mostly means thrift and gain, or for somewhat much higher, for an education to train and equip men to be what are called specialists, adepts in any species of technics, as practical chemists or engineers, then I see not why we need any so costly supply of even the so-called modern studies. Let those who are destined to these callings give their days and their nights, if so they must, only to those studies which may directly make them master-workmen in them. But we have now to do, not with a special education, but with a general one, with one that

is academic and liberal, conceived and formed after the ideal of Milton, "a complete and generous education, by which men are fitted to perform justly and skilfully and magnanimously all the great offices of life." And for this I contend that Greek and Latin, as the languages of nations among the foremost in the world's history, and bound by close ties with those of great kindred nations, are so useful and practical as to be simply indispensable. And for all else that is involved in these questions, I find a ready answer in our present knowledge of language, as the science of language, or as comparative philology. The comparative method of study, which, winning its first achievements of discovery in language, has pushed on its victorious way into history and religion and politics, has taught us that such a substitution of the modern and living tongues for the ancient and dead is not only fallacious and irrational, but that the very terms involved in its proposition are waxing old and ready to vanish away. This method has been said by a distinguished English writer * to mark by its discovery and use a stage in the progress of the human mind as great and memorable as the revival of Greek and Latin learning itself. It has taught us that the languages of nations parted hemispheres asunder are yet of one kin, and that the nations, whose they were and are, form one brotherhood, whose forefathers once lived in one home, were one family, and spoke one tongue. And what makes especially for my argument, it has given Greek and Latin a claim upon the generations of the nineteenth century, no less imperative than that given them by

* Edward A. Freeman, D. C. L., in his Rede Lecture, delivered before the University of Cambridge, 1872.

that earlier discovery upon the generations of the fifteenth ; for it has established them in the studies of language, as it has their peoples in historical studies, in a central position, such as they were never before known to have. Such is the close relationship now known to unite the languages of the most highly civilized nations of the earth, that we cannot set them off and treat them in our studies as ancient and modern, as dead and living, as if they were parted from each other, and cut off from all community of life and being. You cannot thus conventionally divorce studies which with every day's new discoveries are asserting their oneness. You cannot know European history without knowing Greek and Roman, you cannot know the French language and the German and the English, without knowing the Greek and the Latin. To confine my illustration, for brevity's sake, to the Latin, let me remind you that it is by no figure of speech that Rome is the Eternal City. It is the great centre, to which all roads of history lead, out of which all roads issue, even as once those queenly *viæ*, the highways of the republic and the empire ; the city not only of the mythic Romulus and the later semi-mythic kings, but of the long line of historic consuls and of the longer line of Cæsars as well ; the city, too, of the long succession of pontiffs, and at this moment venerated by many nations and looked to by all as an ecclesiastical capital. And living now in the laws and institutions of western Europe, yet in nothing is Rome living more vitally than in her imperial Latin speech. Not only the polished tongue of the Augustan age, Latin was long before the language of the elder and truly native Roman poets, and of the decemviral laws, and of

monumental inscriptions which are studied and read to-day; and in all the subsequent ages it has lived on and lives yet as the voice of law and dominion, of church and of empire. And what a solecism of speech to call the Latin a dead language, when it has given to the Romanic tongues their very being, and much of its best life to our own tongue, and so the old Latin blood is still flowing in the veins of the Spanish, French, Italian, and English languages. Take a single illustration of this living fact. See how that name of a Roman family, stamped with imperishable renown by Julius Cæsar, has come down through all the centuries as the grandest title of sovereignty, till in our own day it has just been won and is now worn by Kaiser William I., of the now united Germany. Dead that language may be called, as far as the nation is gone that once gave it articulate utterance; and yet it is not dead, for it still speaks through its children and kindred, in the ears of the listening world, with an ever-living voice; and the very words, once familiar to the lips of Cicero and Livy, are transmitted with a vital force along the line of the speech of civilized mankind, all round the globe.

II. But I hasten to speak of the *method* now to be used in Greek and Latin teaching. My point of departure here shall be the complaint so often heard, — that after long years these languages are so imperfectly acquired by many of our students that they do not and cannot read the classic authors with ease and satisfaction. For my part, I have to confess that the complaint is a just one. And it will not do to plead that other branches of study are also not thoroughly acquired; that is probably true, but it only aggravates the complaint. Nor is it enough to allege the discipline

won even by imperfect acquisition ; that is no fair compensation for what is complained of as wanting. Nor is it worth while to shift the blame, if there be any, from one to another ; to find fault that the college sends out no better teachers, or that the school fails to furnish the pupils out of whom the better teachers can be made. What we need in school and college alike is to do away with the grounds of the complaint, by achieving the results which are missed, through the more vigorous use of existing good methods and the use of better new ones, if such are at hand. And here I observe, first, that in these days of science and of language, of linguistic science and scientific language, we are in danger of missing the true end of classical studies. That end, as I understand it, is mental discipline and culture, first by a mastery and appropriation of the languages themselves through the union of close grammatical study with living processes of practice, and then the abundant reading and studious appreciation of the classic writers. The grammatical study, however, is not an end but a means ; and it is the grammatical study of these languages and not of others, and of these only such and so much as will secure their speediest and surest acquisition. Let not Greek grammar and Latin grammar be treated only as phases of comparative grammar ; let not Greek and Latin themselves be treated only as material for a science of language, but each as an individual, concrete language by itself, to be acquired for its own sake. Let us not be swift to turn our pupils into Sanscrit students or comparative philologists or scientific grammarians, before they have become, I will not say scholars, but proficient at least in the proper Greek and Latin

studies. We need not expect that, except in the stages of distinctly professional study, they be fully up in all the theories of the origin and growth of language, or in the genesis and historic changes of the infinitive mood or of the middle voice; but we ought to expect that they learn and know Greek and Latin so as to read them with ease, and write them with some facility, and follow them with the ear, when read to them by sentence or page or book. It is not necessary that many of them ever become professional philologists or grammarians; but it is indispensable for the ends of a liberal education, that they have their tastes cultivated and their imaginations quickened by the genius of Greek and of Roman letters, and their minds informed and instructed by the knowledge of the life and institutions of the Greek and Roman people. All honor to comparative philology for its discoveries, which have wrought such marvellous changes in our knowledge of Greek and Latin words and inflections and idioms! But in our instruction, except in its latest stages, we have to do only with the results, not with the processes of these discoveries, only with such ascertained facts as have already found a fitting place in a judiciously appointed Greek or Latin grammar. Though I am thus making restrictions upon grammatical study in the method of teaching, nevertheless, it is grammatical study with which I would begin, and which I would never discontinue. I am ready to hold to the old word of the grammarian Buttmann, "if the grammar be the first book put into the learner's hands, it should also be the last to leave them." There may be merit in what is now called the *natural method* of teaching a language, but that merit does not come from doing away with gram-

matical study in teaching it. That may be the way in which a child learns the vernacular, but it is not the way in which people no longer children learn a foreign tongue, and especially gain a scholar's knowledge of it. Certainly it cannot be natural to resort, without grammatical study, to a frigidly artificial attempt at conversation by a manipulation, however dexterous, of sentences and paragraphs from a classic author. No; let us still insist upon grammatical study, and let us abate nothing from its quality in exactness and thoroughness and frequency of repetition; but in the quantity let it embrace, in the first and in every subsequent stage, only what can be learned and appropriated by practical use; and above all, let us not perplex the young pupil with refinements and subtleties, which belong only to the logic and metaphysics of grammar. I am convinced that beginners have often been burdened and wearied with overmuch grammar; they have been disheartened and *cared* by being plunged into a grammatical labyrinth, with, alas! no thread from a friendly Ariadne hand to guide them out of its intricate windings and mazes. How different a preliminary process is this from that figured by the poet teacher Milton: "I shall strait conduct you to a hillside, where I will point you out the right path of a noble education, laborious indeed at the first ascent, but else so smooth, so green, so full of goodly prospects and melodious sounds on every side, that the harp of Orpheus was not more charming." If we would get into that path and keep in it, let us have our grammatical study united and wedded to a living practical use. Let the essential grammatical forms be possessed by an alert memory, and then let them be made things of life, by

the quickening exercises of a dynamic practice. Let the inflections be so learned, that they and their English equivalents can be instantly uttered in the interchange between teacher and pupil, at once springing to the lips, and sounded in the reciprocal action of speaking and hearing. Let thus, also, the separate words be learned once for all, so that, except for fine shades of meaning, they need never again be looked for in the dull, time-losing process of turning over the leaves of the lexicon. Such, also, should be the procedure when the pupil comes, and as soon as possible, to the study of easy passages in a Latin or Greek reader. These, also, should be made so familiar as to be recited, not only as seen on the printed page, but also as heard from the teacher's voice; and all that is in them be turned into exercises for direct use in writing and speaking. Not to weary you with further details, let us proceed in Greek and Latin as we do with French or German. When we teach German, we go upon the faith that, as language, it has a vital relation to the tongue and the ear no less, and, indeed, yet more than to the eye, that it is to be learned by speaking and hearing, as well as by seeing and reading in books. Why not so with Greek and Latin? Here, too, language is speech as well as letters. Like divine music itself, it must be voiced and sounded and heard, as well as seen and read, and studied by scientific notation. By so doing, we adopt so far as we may the method of nature, if not in the primitive way of a child learning his mother-tongue, at least in approximation, in that of an older person learning a foreign tongue in the land where he hears it spoken, where he talks it himself, and breathes it in its native air. Suppose such a method faithfully

and persistently pursued with the pupil in the introductory reader, with what a store of knowledge in possession, with what facility and interest, would he come to the reading of the first Greek or Latin author in his course! How many words and phrases would he already know, how soon would he see the construction of, at least, the simpler sentences! In the successive stages of study, let the same method be used with an ever-enlarging range of application, every lesson and every page made familiar by translation into English from the Greek or the Latin, and back again from the vernacular to the foreign tongue; and the new material always turned into new and larger exercises, both oral and written, sometimes extemporaneous, sometimes carefully prepared. All this might be done without any letting down of the standard of theoretical study in the grammar, or of accuracy in analysis and interpretation. Nay, rather would the pupil go back to the theory of the language with a keener appetite for new acquisition, and so theory and practice would, as in the way of nature, be united.

With these elements of method in our teaching may be usefully combined the exercise of *reading at sight*. This, though recently more fully and more systematically brought forward and tried by classical teachers* in New England, is not a new exercise, but one long practised in England, and to some extent in this country. I think, however, it can be employed to advantage only after considerable progress has been made in the language. It is not so much a means of learning, as a test of having learned, and an incentive to

* Especially Professor John Williams White, of Harvard College.

further progress. It implies previous exact reading. You must be able to read before you can *read at sight*, and to read at sight eminently well belongs only to a mature stage of scholarship. But it is well to try it with a class as early as possible, and to carry it on vigorously to the end. It is a wholesome exercise to put a class, when in the recitation-room, to the written translation, within a given time, and without grammar or dictionary, of passages they have never seen before. It cultivates promptness and concentration of knowledge. More than this, it stimulates to independence and self-reliance. It shows who are the workers, and who are the drones and the thieves in the hive. It reveals the sure gains of honest labor, and the poverty of living on borrowed or stolen capital.

Finally, it belongs to our method of teaching these languages that our pupils be thus brought to such a studious and generous reading of Greek and Roman writers as will minister to their literary knowledge and culture; and this last and crowning point of my theme I have time only to touch. Never can we begin too soon, never continue too long, to bring our students into acquaintance and sympathy with the literary merits of these writers, and so to awaken a literary spirit and foster literary tastes. A great privilege it is, thus to nurture the youth of the scholar, and set him forward in the beginnings of a noble career in letters. It is our fortune to be the first to introduce the youthful student to works of genius, which have been studied and admired in all ages, which have yielded to men of taste and sensibility both exquisite pleasure and highest inspiration, and which have trained to good service many generations of scholars. Certainly these writ-

ings are not to be material only for grammatical analysis and philological exposition. It is not agreeable to think that so many young people labor over Virgil and Cicero only as so much Latin to be construed and parsed, unconscious that in the one they are in contact with conceptions and diction which belong to the highest forms of poetry, and in the other, with breathing thoughts and burning words, which once delighted and convinced listening multitudes and moved them to heroic action. Let us try to bring our pupils to know and enjoy these classic writers, and to feel their educating power. Whether they be the poems of Homer and Virgil, the speeches of Cicero, or the narratives of Xenophon, let them come to be conversant with them, and get from them the secrets of their art, and win for themselves the excellence which is theirs. So, too, let these writers be so studied as to furnish the student with a knowledge of the people to whom they belonged, and among whom they ran their illustrious career. As all genuine literature is the reflection of real life, so we see clearly mirrored in the Greek and Roman literatures the genius and national life of these two races, the foremost in antiquity in all the arts of peace and war. From their study our pupils should understand and know for themselves who and what manner of men these Greeks and Romans were, who have filled the world with their fame and with the monuments of their greatness; what were their traits of character, their manners and customs in public and private life, and what were their political institutions. Let them see in Virgil not only a poet, but a national poet as well, whose majestic verse as it marches on makes a triumphal procession of the fortunes of Rome, and of

the names and deeds of the men who created and sustained her greatness and her glory. And in those orations of Cicero let them contemplate as in a broad mirror the grand public life of Rome, and as they read and themselves utter those stirring words, which once swayed and moved thronging multitudes, let them reproduce to themselves the places where they were uttered first, the forum, the rostra, the senate, and the courts of law, and let them comprehend and appreciate those live issues which were then going on, and which involved the destinies not only of Rome but of the world. And so let these writers give forth a living knowledge of the life of Greece and Rome in the various epochs of their history.

LECTURE IX.

TEACHING NUMBERS.

By G. A. WALTON,

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THE elements of arithmetic consist of numbers, their expression, combination, and relations. The last two of these terms may need explanation. By combination is meant all the possible unions and separations of numbers. It has reference to a number and its parts. By relation is meant the comparison of one number with another. Whilst numbers are without limit, by our decimal system a few elementary numbers are made to form the basis of all the others.

The first ten numbers have simple names, thus, *one*, *two*, *three*, etc. Then we have a *hundred*, a *thousand*, and so on. All other numbers are combinations of these, and are expressed by compound words: thus, *eleven* in Old English is *endlif*, in Gothic, *ainlif*, a compound of *end* or *en*, meaning *one*, and *lif* meaning *ten*. *Twelve* in Old English is *twelf*, in Gothic *twa-lif*, a compound of *twa*, meaning *two*, and *lif*, meaning *ten*. *Twenty*, in Old English, is *twentig*, a compound of *twen*, meaning *twain* or *two*, and *tig*, meaning *ten*; so *eleven* means *one* and *ten*; *twelve*, *two* and *ten*; *thirteen*, *three* and *ten*. *Twenty* means *two tens*; *thirty*, *three tens*; and so on.

The combinations and relations of numbers are also

infinite, yet they all depend upon a few elementary combinations. Thus, to find the difference of the numbers three and five, we must first know that five is a combination of three and two. And again, to find the result of the combination one and one and one, we use the knowledge of the combination two and one or one and two, and a knowledge of these combinations depends upon the knowledge that two is the combination of one and one. A knowledge of the combination seventeen and six depends upon a knowledge of the combination seven and six, and a knowledge of the combination twenty and ten depends upon a knowledge of the combination ten and ten.

Thus we have simple or elementary combinations, and others which are dependent upon them.

All the combinations which are elementary are expressed in the following

TABLE OF ELEMENTARY COMBINATIONS OF NUMBERS.*

| I. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. | 10. |
|------|------|------|------|------|------|------|------|------|-------|
| II. | 1+1 | 2+1 | 3+1 | 4+1 | 5+1 | 6+1 | 7+1 | 8+1 | 9+1 |
| 10+1 | 12. | 1+2 | 2+2 | 3+2 | 4+2 | 5+2 | 6+2 | 7+2 | 8+2 |
| 9+2 | 10+2 | 13. | 1+3 | 2+3 | 3+3 | 4+3 | 5+3 | 6+3 | 7+3 |
| 8+3 | 9+3 | 10+3 | 14. | 1+4 | 2+4 | 3+4 | 4+4 | 5+4 | 6+4 |
| 7+4 | 8+4 | 9+4 | 10+4 | 15. | 1+5 | 2+5 | 3+5 | 4+5 | 5+5 |
| 6+5 | 7+5 | 8+5 | 9+5 | 10+5 | 16. | 1+6 | 2+6 | 3+6 | 4+6 |
| 5+6 | 6+6 | 7+6 | 8+6 | 9+6 | 10+6 | 17. | 1+7 | 2+7 | 3+7 |
| 4+7 | 5+7 | 6+7 | 7+7 | 8+7 | 9+7 | 10+7 | 18. | 1+8 | 2+8 |
| 3+8 | 4+8 | 5+8 | 6+8 | 7+8 | 8+8 | 9+8 | 10+8 | 19. | 1+9 |
| 2+9 | 3+9 | 4+9 | 5+9 | 6+9 | 7+9 | 8+9 | 9+9 | 10+9 | 20. |
| 1+10 | 2+10 | 3+10 | 4+10 | 5+10 | 6+10 | 7+10 | 8+10 | 9+10 | 10+10 |

* Taken from Walton's Manual to Arithmetic. Copyright secured.

The combinations are expressed in the table by the figures separated by the sign $+$, and the results of the several combinations, by the figures in *full-faced* type at the top of the columns.

For example, the only elementary combinations of five are those expressed beneath 5, they are *one with four*, *two with three*, and the converse of these, *three with two*, and *four with one*.

The applications that can be made of the elementary combinations may be embraced under three classes: they consist, first, of numbers within a decade, as *three with five*, *three with fifteen*, *three with twenty-five*; second, of decades, as *ten with ten*, *ten with twenty*, *ten with thirty*; and third, of numbers in successive decades, as *two with nine*, *two with nineteen*, *two with twenty-nine*.

The language is varied to express the various ways in which the combination may be applied; thus, the questions, —

How many are three and four?

Three from seven leaves how many?

Three and how many make seven?

Four plus three are how many?

Seven less three equals what number?

How many more in seven than in three?

How many less in three than in seven?

And what is the difference of the numbers seven and three? —

all depend for their answers upon the single combination three with four. In addition to these forms of language by which the combination is recalled in the mind, the combination admits of a great variety of

applications in problems. In the primary school should be taught all the elementary combinations, with such applications to larger numbers as will give the pupil facility and accuracy in all the operations with simple numbers, also, to a limited extent, with compound and fractional numbers. Besides this, the solution of practical problems of every variety should be made familiar. This implies not only a knowledge of the combinations, but a clear notion of the language of the operations, and the ability to solve practical problems. The failure in the teaching of the past, and which is still general in our schools, results from attempting to teach one after another the fundamental operations of arithmetic, each by itself; this necessitates the use of large numbers with quite young children, numbers wholly beyond the grasp of their minds; it presents an unvarying form of expression, which soon becomes tedious to pupil and teacher.

The plan to be proposed for teaching the elements of numbers does not recognize the different arithmetical operations as of any great importance to the beginner, but aims at giving him a mastery of the elementary combinations and relations, in whatever form they may be presented; also of the various forms of language which give rise to the several combinations.

I have indicated what is meant by combination and by elementary combination of numbers. It will be seen, by referring to the table, page 138, that the number of elementary combinations is limited to one hundred, and that the highest result that can be obtained by using these only is *twenty*.

Whoever has these elements so that he knows each of the combinations in all its relations has the element-

ary knowledge of numbers, and is prepared to make all the possible applications of arithmetic. The teaching of the language is necessitated by the proper teaching of the combinations themselves.

I will now indicate the order and the method of the teaching. The two ends to be secured in the teaching are a knowledge of the facts, namely, the combinations and relations of numbers with the language in which they are expressed, and the mental discipline or culture which should result from all study and teaching.

There is only one way by which the notion of number can be excited in the mind. This is by the presence of collections of sensible objects. These are, therefore, absolutely essential in the elementary teaching of numbers. The use of words or of figures alone to give the notions of numbers is fatal to the teaching, and would seem to be without excuse in this enlightened age. The objects may be the fingers, pebbles, sticks, nuts, the beads of the numeral frame, etc., etc. Convenience may be consulted, but all the elementary combinations should be taught with sensible objects.

This teaching should include the training of the eye to recognize groups of objects of various kinds. The pupil may be readily trained to distinguish at sight any collection not exceeding ten. This statement is upon the authority of our best primary teachers.

The order of the teaching should be systematic, proceeding by natural steps from the simplest combinations to the more difficult, from the known to the unknown; and in obedience to a law of the mind, it should be by an analytical process, that is, numbers should be presented as wholes, and resolved into their parts, rather than be built up by counting the units.

First, then, begin the teaching with a number the pupil knows. Commence with two, three, or four objects, and with this collection in the pupil's presence, ask the question, "How many?" If he does not name at sight the number four, try three, or two. Here the question may be, "How many hands, eyes, or feet have you?" The number two will certainly be known by every young pupil, and the name, also, by all who speak English.

As soon as the pupils recognize the number two, they should be trained in the combination of one with one with all the questions which indicate the unions and separations of one and one, the objects being always present, thus, "If I take one of the two away, what is left?" (Taking one.) "What have I in my right hand? What have I in my left hand? How many in both hands? One with one is how many? Tell me how many ones there are in two. Two ones are how many? etc., etc."

Then may follow problems as, "Name all the parts of your face of which you have two. Name all the parts of the face of which you have one. Two children belong to the class; one is absent. How many are present?"

"There is one bird in a cage, and one has flown away; how many were there in the cage at first?"

In this way the combinations and the language of arithmetic are taught with the application to the problem; and thus the powers of invention and imagination, so much neglected in the training of children, are brought into exercise. Much of the failure in the solution of problems results from the want of a clear conception of the meaning of the words used.

To return to the teaching of the combinations, present a new number, the number three. Present the number as a whole. Let the pupil name it. If he cannot do this, separate it into two and one; these parts he knows; when he sees the combination, give him the name three. Teach now the combination one with two, with all forms of questions as was done before with the combination one with one. Having fixed this combination, take the converse, two with one, and treat it in the same way.

The combinations of four, namely, one with three, two with two, and three with one, will then be taught in succession in the same way. The teaching will include the comparison of the number four with each smaller number, and the practical application of these relations to problems. Notice will be especially taken of the equal numbers twos of which four is composed. Both the measuring and the fractional form of division must also be taught.

Thus will be taught in order each number from one to twenty inclusive.

As soon as the pupils have mastered the combinations of four or five, they may be taught to make the figures which stand for the numbers already learned, and with these, practice may be carried on in column additions, which should, from the first, be proved by subtracting. Of course, these exercises will be very simple, consisting of but a single order of units, and of but few items. And care will be taken to use object illustrations.

When the numbers to ten have been taught, the combinations one with ten, two with ten, three with ten, and so on to twenty, may be taught with the numeral frame, and the numbers eleven, twelve, thirteen, etc., expressed in figures upon the board. This need take

but a single class lesson. Then will follow the teaching of all the combinations of eleven, 10 with 1, 9 with 2, 8 with 3, etc., as before.

When the combinations of twelve are reached, the teaching will begin with the combination two with ten; and the combination one with eleven, and eleven with one will be left for the last, and will then be taught as an application of the elementary combination one with one. The expressions for one with one, and for one with eleven, will be written thus:—

$$\begin{array}{r} 1 \quad 11 \quad 1 \\ 1 \quad 1 \quad 11 \\ \hline 2 \quad 12 \quad 12 \end{array}$$

When the combinations of thirteen are taught, the teaching will begin with the combination three with ten; and the combinations one with twelve, two with eleven, and their converse, will be taught as applications of the elementary combinations, one with two, and two with one. The expressions for these combinations will be as follows:—

$$\begin{array}{r} 1 \quad 1 \quad 2 \quad 2 \\ 2 \quad 12 \quad 1 \quad 11 \\ \hline 3 \quad 13 \quad 3 \quad 13 \end{array}$$

In a similar way the other combinations to twenty will be taught. From twenty onward, all the teaching consists in applying the combinations already learned. The pupil may count from twenty to thirty, from thirty to forty, by ones, as from one to ten, and from ten to twenty; afterwards he may count by tens, thus: ten, twenty, thirty, forty, and so on.

In teaching the combinations which require the pupil to go from one decade into another, the combinations

will also be taught as applications of elementary combinations. The expressions of the elementary combinations will be shown with those under consideration. Thus, to teach the combination three with eighteen, present the combination three with eight, and its expression, thus : —

$$\begin{array}{r} 3 \quad 3 \\ 8 \quad 18 \\ \hline 11 \quad 21 \end{array}$$

The teaching of the elementary combinations includes all the multiples to twenty and all the measures of these multiples, so that when the pupil reaches twenty, he is prepared to make the multiplication tables. These he will make by counting by twos, by threes, by fours, and so on. The thorough teaching of all the numbers to twenty will secure rapid progress through the numbers from twenty to one hundred: More time will be given to some of these than to others; those which are applied in measuring time, as 21, 24, 28, 30, 60, and those used in weights and measures of capacity, will make a demand on account of their practical use; those which have many factors, as 24, 30, 36, 48, 60, 72, will need to be thoroughly taught with particular reference to the numbers which measure them.

If now the pupil be practised in combining addition with the multiples in the several tables; if he is also practised in the division of numbers which are not multiples, so that he becomes accustomed to finding, at once, quotients and remainders, he will easily master the tables and at the same time be preparing for the practice of the fundamental operations of arithmetic upon the slate.

The course which I have indicated is objective and oral. When the pupil has mastered the elementary combinations, he may review by using a good primary arithmetic. It will serve an excellent purpose, both as an arithmetic and as a reader. The book can never be a substitute for teaching; but properly used, it will be a great aid to both pupil and teacher. The outline only of a plan of teaching can be presented in this brief lesson. Most teachers will find the book, if properly arranged, of special use in supplying the details, which are quite as essential in carrying out a plan as the knowledge of the principles upon which the plan is based.

With the press of studies now pursued in the schools, economy of time is an important consideration. By the plan here proposed, better results may be secured in one half the time than by that in common use in the schools at present.

The principles at the base of the plan proposed are, first, that numbers must be taught by the living teacher, and by the aid of sensible objects. Second, that the number of elementary combinations is quite limited. Third, that these elementary combinations should be thoroughly mastered by the pupil at the outset. Fourth, that the knowledge of the distinctions in the arithmetical operations are of little or no importance to beginners. And finally, the plan contemplates entering at the earliest moment possible upon the use of the slate and the solution of practical problems. Aside from giving the knowledge of numbers and skill in using the knowledge, it contemplates a vigorous exercise of the eye, a constant use of the hand, and a special discipline of the powers of memory and imagination.

LECTURE X.

PIECE-WORK.

By JOHN HANCOCK, Ph. D.,

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So wide is the field of human endeavor that best results are attainable only by concentration of effort. But there are limits beyond which the division of labor cannot be extended without positive disadvantage to the worker as a producer, and whatever subtracts from the general producing power of the individual, in just so much lowers the vital forces of the community. Dexterity acquired by work upon a single thing, as in fashioning a pin's head, is too often acquired by a sacrifice of the general ability to do, which, in the end, must react most unfavorably upon the special dexterity itself. Whatever makes a worker less a man, makes him weaker in his special vocation. The highest products of skill and thought are formed by the harmonious union in such products of their constituent parts, and he is best able to fashion one of these parts who is best able to perceive its relation to all the other parts. He who knows how to do but a single thing is a weak creature, the veriest slave of circumstances. To do the same thing, through years of unnumbered repetitions, puts out the eyes of the mind. A new machine is invented that does more of this thing than can a dozen men: the piece-worker is unable to adjust himself to his new

environments ; he is forced to let go his hold on his old occupation, and he drops into a yawning gulf of abject poverty with all its miseries, to emerge thence never. The world, on the whole, is no doubt the more comfortable from the invention of the machine, but that is but sorry consolation to the poor wretch who is starved by it.

When, towards the close of the last century, the power-loom was invented, there were scattered over Great Britain thousands of weavers, each having the hand-loom at which he worked in his own house. These weavers, independent, and unaware of the approach of evil, were earning a comfortable livelihood in the midst of their families. Suddenly the new and remorseless machine was upon them, and where had been happiness and plenty, was now misery and want. For these men, shaken from their accustomed hold, and who could do but the one thing no longer to be done, there seemed to be no place left in all the wide earth. With awful despair they looked into the faces of their starving wives and children, and struck out blindly against the unfeeling *thing* that was crushing them, — breaking and burning. But against the *thing* they were impotent, they dashed themselves against the irresistible and were broken. History voices not the fate of the weak and poor, but we can readily imagine the end of the strugglers.

The new invention added largely to the wealth and the civilization of man, but it required an extensive readjustment of vocations. The home-weavers, from the limitations of their versatility, arising from their training in one narrow occupation only, could not readily adjust themselves to the changed condition of

things, and the gain to the human family was purchased at a fearful price to them.

It is often complained that boys no longer, as in the good times bygone, learn trades; and this new state of affairs is not unfrequently charged to the public-school system, which, it is said, by over-educating the poor, has destroyed all inclination for manual toil. But the fact is, there are now no trades, in the old-fashioned sense of the word, to be learned. A boy cannot now, if he wishes it, apprentice himself to a master for a term of years, to learn to build a house, to hew and frame its timbers, to plane its weather-boarding and flooring, to make its sash and doors. This work is nearly all done by various machines, and all that remains for the share of the boys is to stand by and guide the machines; and the experience of but a few weeks is all that is necessary to fit them to perform their brainless tasks. At no former period, perhaps, have mechanics been better furnished with book-learning, but they now labor under the drawback of lack of that kind of instruction, which, in the trade-learning days, had such a stimulating effect upon the thinking powers as not unfrequently to approach in breadth and wholesomeness the training given in our schools. By our present system of piece-work, quality in production is sacrificed to quantity, and the result is deplorable both from an intellectual and a moral point of view. It is producing a sad degeneracy in work and men, which must constantly increase unless counteracted by outside educational influences. A late writer on this subject says, "These degeneracies would seldom or never be found in the workman who periodically finds some variety in his labors to incite both

mind and body with the charm of novelty, and to stimulate his industry with the prospect of new achievements, developing higher and higher abilities, the possession of which is a gratification to his mind, making him feel that he is daily increasing (what workmen so often hear is their only capital) his marketable stock of work-power, and becoming qualified to fill more honorable departments of his trade. And the result, as a rule, may be that more work, of better quality, will be produced by men working with this incitement to progress and perfection than by those who, having no variety in their work to look forward to, degenerate into mere machines, with little or no mental interest in their employment, further than to speculate how they can increase their earnings by a shilling or two on next pay-day."

But the evils of piece-work, as has just been stated, are not confined to the physical and intellectual man; the moral effects of occupations which, by constantly contracting walls, finally close in upon those who pursue them, crushing out by degrees the very essence of humanity, are equally deplorable. There is something in every man that rebels against all attempts to make a machine of him. The dullest clod has an instinct, obscured though it may be, that the glory of manhood is that he is a being who thinks. As the power of thinking dies out of him, whether from the nature of his occupation or from any other cause, nature, with a fierce, gnawing pain, calls out to him to be a living creature, not a dead machine; and for the stimulus to activity that should have been supplied by variety in work, he resorts to alcohol, and falls a victim to the hateful vices which follow in its train.

Let us now attempt to apply to the consideration of questions of school training some of the suggestions which naturally arise from the observing of the effects of piece-work in the mechanical trades. May we not entertain the fear, then, that we shall drift, in our school work, into an undue estimate of that training which teaches modes of doing specific things, and come to undervalue the training which puts the individual into complete possession of himself, and makes him a magazine of power, to be applied wherever power is required?

Before entering upon the discussion of our school organizations and methods in some of their aspects (in order that I may not be misunderstood), I wish to set forth in a few sentences my convictions as to the present status of our system of free education. I am sure there never has been a time when such strenuous and intelligent efforts were put forth to compass the whole nature of man, in the endeavor to educate him, as now. I have not the least patience with the views of those critics of our schools who affect to find them inferior to those of twenty-five, fifty, or a hundred years ago. No reflecting man in New England need be told that Horace Mann has not lived in vain; or in my own State, that the sound judgment, eloquence, and self-sacrifice of Samuel Lewis have borne no fruits. I have an immovable conviction that the public schools of to-day are superior in all respects to those of the times for which so much is just now claimed. And none know this so well as the older educators among us. Yet, granting all that may be rightfully claimed for our schools as they now exist, we shall be safe in admitting that they have not yet reached the standard

of highest possibilities. On the contrary, I think I discern in the drift of public sentiment, or in what may, perhaps, be more fitly called the spirit of the age, tendencies which not only threaten to embarrass progress in the right direction, but possibly to bar it altogether.

Emerson has said that all ages of faith have been strong; all ages of unbelief, weak. No one can claim that ours is an age of faith. It seems to me that we are striving with great success to eliminate the poetic element of simple trust from our lives. Material utilitarianism is the standard by which we measure all things. It is not strange, therefore, that a powerful party should strive to make it conspicuously so in education. It is, then, not without some apprehension, that we may look upon a recent movement, which may, as I believe, if properly guarded, result in great good, but if not thus guarded, is sure to result in evil. I refer to the movement to combine in the schools of cities and large towns academic and industrial education. The masses of men must always procure a subsistence by the labor of their hands. Nor is this a matter of regret. A due amount of manual toil is essential to moral and physical health. To know how to handle many tools gives a man just so many different hands with which to contend with nature and his fellow-men for a living. A youth may scarcely be saved from himself and his consuming passions except by taxing his physical energies to the utmost. It is not intelligent workers but idlers who fall into the ways of destruction. The sons of the rich have comparatively a slender chance in life. How to unite the thinking brain and the brown hand of toil seems to me to be one of the great educational questions of the future.

Herbert Spencer, in discussing the question of what knowledge is of most worth, has unduly exalted the bread-winning education, and has depreciated in a corresponding degree the education which makes for man's spiritual culture. Some of those who advocate the making of industrial education a part of our public-school systems intensify this mistake. Spencer does not pretend that the education which informs the intellect and elevates the taste is of but little value, he only subordinates it to the one he deems more essential. They strive to elevate their own scheme of education by representing general academic education — whose products, whatever may be its deficiencies, have been the great doers of the world — as being of little practical use, as rubbish to be swept aside to make room for something better. How much grander were the notions of that wise old Greek, Aristotle! He tells us, in discoursing of happiness, that the mind is man's very self, and the one thing worthy his supremest care. "The intellectual energies are complete and perfect in themselves, supplying an exhaustless stream of pure and perennial pleasure, which in its turn invigorates and enlivens the energies, and thus increases and refines the source from which it unceasingly springs; all-sufficient, peaceful, and permanent, as far as is compatible with the condition of humanity. Were unalterable permanency added to such a life, its happiness would be more than human; but even within a limited term, its inestimable delights may be enjoyed by those who obtain the perfection of their age and faculties; living not merely as partners with a frail and compound nature, but according to the simple and divine principle within them, whose energies and vir-

tues as far transcend all others as the intellectual substance in which they all reside excels all other substances of which our frame is composed. We ought not, therefore, according to vulgar exhortation, though mortal, to regard only mortal things; but, as far as possible, to put on immortality, exerting ourselves to taste the joys of intellectual life."

The same author elsewhere advances the notion that the wise man is chiefly distinguished from the fool by the way he employs his leisure. The wise and the foolish, he says, plough and sow and reap and carry on trade much in the same manner; but in their way of spending the hours of leisure that come to all, even the busiest of men, there is a marked difference. The foolish spend their leisure in drunkenness and bestial delights, whilst the wise spend theirs in high discourse and meditations which are pleasing to the gods. It seems to me this notion is worthy to be borne constantly in mind in our schemes of education. We ought not so much to educate for that toiling life, whose energies are given chiefly to money-making, as for that other life in which man is most completely master of himself, and into which is crowded most of his pleasures and his pains. If he has not been so educated that his life is made radiant by the love of the society of wise and virtuous men, of all that is beautiful in nature and in art, and by the constant companionship of noble thoughts, then must he be classed among Aristotle's foolish, no difference how much of wealth or fame he may have acquired.

That technical education which is not based on a general education, is most decidedly piece-work in its character, and to be accepted only on necessity. As an adjunct to that education whose design is to unfold

all the powers of the learner, the introduction of industrial training into our public schools, so far as it may be practicable, is to be commended; but any proposition to make the latter a substitute for the former, ought not to be entertained for a moment. Even if the scheme should have but a remote tendency to prevent youth from going on in a course of academic training to a point which they would otherwise have striven to reach, it ought to be abandoned. The tradesman is of more value than his trade. Besides, as I have already attempted to show, all piece-work tends in the end to defeat its own object. But I have seen no necessity for any conflict between the special education and the general, when the former is relegated to its proper subordinate position. I shall, therefore, be in hearty sympathy with any practical plan of education that shall, at the same time it makes men better thinkers, make them more skilful workers. Indeed, that education (however admirable of its kind it may be) which turns a young man out of the high school or college with a vigorous, well-ordered brain, but with entirely helpless hands, is not altogether stalwart against the accusation that it is itself of the nature of piece-work, — but a piece-work which, when supplemented by a short training in practical affairs, readily develops into a complete and harmonious whole.

I believe the perfect course of study, when discovered, will be found best, as well for him who is to receive but a short school training, as for him who is to possess all the advantages of a college education. Such a course will be found not one of numerous paths, leading forward in capricious, serpentine ways, but one broad highway, going as straight as an arrow from the

base to the summit of the hill of science, ever broadening as it mounts, — a highway in which the feet of all men, whatever are to be their future vocations, will tread together; and whether the student drops out of the line of sturdy marchers near the foot, or whether his fair fortune shall allow him to mount to the crest, and drink in its health-giving air and behold its lovely prospects, each shall receive the best possible return for the effort he makes. Technical courses of instruction will lie beside this highway of general education, touching it at every point, not divergent from it, and students pursuing these courses will always be within hailing distance of students walking along the central track. Thus will the influences of the general education interpenetrate all training for special vocations. When such a perfect course shall have been found, I trust our teaching will correspond with it in adaptability, breadth, and continuity.

No one estimates more highly than I do the value of system and method in education. Without them, an untold amount of energy on the part of both teachers and pupils must be wasted, and the development of mind into its highest and best powers be impossible. That the graded schools of our country are producing better results than the ungraded have ever produced, seems to me not to admit of a shadow of a question. Yet with the growth and extension of the graded system, I think I see tendencies which it will be well for its friends to guard against. Some of the views I am about to present are in a degree merely tentative, for I have not entertained them for such a length of time, nor given them such thorough investigation, as to warrant me in enforcing them with dogmatic positiveness.

* Our modern educational systems embrace more than one device calculated to enable the ignorant and unskilful teacher, the piece-worker, to do a work which can only be done by the learned and skilful. But such devices must ever prove futile, for it must be borne in mind that the work of the educator is a work of the highest art, and no work of true art can be done by machinery. A chromo cannot equal the work of a great painter. "Last Suppers" and "Transfigurations" are not made by a printing-press. In the chromo may be the correct reproduction of forms and the harmonious blendings of colors; but the painting has incorporated in its every feature of form and color a part of its creator's individuality, —that human element which gives the work all its value.

A feature of our educational systems which I now have particularly in mind is the one which provides for every organization of schools a written course of study, beginning with infants in the first year of the primary school, and running up through each successive grade to the high schools, in which course everything to be done by the teacher is mapped out to the minutest particulars, in divisions of years, quarters, months, and I am not sure but that, in some cases, the month has been subdivided into weeks. These courses deal extensively in *shalls* and *shall nots*. The teacher shall in a designated term teach so many reading-lessons, or to a certain page in the text-book but must not at his peril go a page beyond. He shall teach spelling, but only of certain designated words; in arithmetic he shall drill his pupils in abstract examples, but

*The following three paragraphs are taken from an address delivered on another occasion.

not in concrete ones ; or he shall teach the descriptive geography of a certain section, but not the political ; and so on indefinitely. It will be evident that the mental food doled out to the child, under such a course, must be chopped pretty fine ; and the accusation that schools, doing their work under such multiplied and often senseless restrictions, are iron-bound, it will strike most thoughtful persons, is not altogether groundless. All elasticity in the way of individual promotions in such schools must be much restricted, and the individuality of teachers hampered. The inquiry may be raised, whether all written courses of study should be discarded ? I should say, certainly not. I believe in freedom, but in freedom under law. The course of study that commends itself to my judgment is one general in its terms, and logically continuous in its provisions ; which, while it restrains lawlessness and eccentric individuality, shall give a reasonable freedom to the exercise of whatever of talent and originality the superintendents of our graded schools may possess, and the same freedom to teachers in all classes of schools. It may be objected that a course of study thus general in its directions would not be a sufficient guide for either superintendents or teachers. The objection would undoubtedly lie against superintendents and teachers incompetent for their positions ; but it seems not unreasonable to believe that such a course would be found amply sufficient for superintendents and teachers possessed of the qualifications requisite for first-rate work, and be most satisfactory to both. The time may have been when the scarcity of the supply made it necessary to employ superintendents and teachers not having such qualifications ; but the

number of applicants for both classes of positions is now so far in excess of the demand, that school authorities are freed from all such restrictions, and in a position to take a long step forward, and demand that the educators they employ shall be artists, not mere artisans. And if at any time these authorities should find that, through insufficient information, or from the pressure of partisan or personal favoritism, or from that other potent factor, sympathy, they have employed a small man to do what is always a great man's work, the best thing they can do for the schools under their charge will be to start him forth without delay in search of fresh woods and pastures new, and try to retrieve their error by selecting some one for the vacant place of a size commensurate with its duties.

To sum it all up, we should, in our courses of study, and elsewhere, strive to remove every obstacle which tends to prevent men of the best talent and richest scholarship from entering the teacher's profession, or being already in it, would restrain them from applying their abilities in such a way as to produce the most excellent results. It may be a trite thing to say, but it is important that it should be said at this particular period of our progress in public education, that it will be a sorry day for the development of American life, when school authorities shall come to consider organization and methods of instruction in a school system, however perfect both may be, a substitute for brains and character in the educator; or to look on mechanic as the equal of dynamic teaching. Organization and method are wondrous helps, but they can never be substitutes for higher things. The thought of Carlyle, that mind grows only by contact with living spirit, and

that the quality of its growth depends upon the quality of the spirit by which it is touched, cannot be held in too reverent memory. If we would have great men arise from among our youth, these youth must receive their training from great teachers.

There is another kind of piece-work in our graded schools, which, in my opinion, prevents their doing the best thing of which such an organization is capable, and that is the almost universal practice of keeping a teacher in the same grade, or division of a grade, year after year. Many teachers require their pupils, in studying a reading lesson, to con it over some ten or a dozen times, under the unreasonable notion that thus good and fluent readers are made. In this way a whole year of two hundred days may be consumed in reading through a book of a hundred of the smallest pages. When we add to this fact that much of the little read in this way is such matter as is utterly incapable of exciting any possible interest in the child's mind, I think it would be difficult to conceive of a process more stultifying, or better calculated to dry up the springs of a noble rage for knowledge. In the same way, to keep a teacher employed in one grade for a long term of years, going round and round in the same narrow circle, looking neither before nor after, is a kind of piece-work whose tendency to lower all his spiritual powers is just as inevitable as is the making of pin-heads to lower the powers of the mechanic whose constant occupation is this unmanly work. A teacher, thus circumstanced, must instruct in a sort of hand-to-mouth way. From the very nature of his environments, he is constantly led to look to immediate results; and why should he not? His success and reputation do not rest upon the fact

that he is now implanting seeds in the child's nature which shall hereafter, under his own direction, blossom forth into comeliness and bear excellent fruit, but upon what he can show of results at the end of a year, or a term, as the case may be. The teacher of the first grade does not perceive, except in the vaguest theoretical way, the beautiful and symmetrical structure into which the life of every little child placed in his care may be built. Why then should his nature be stirred by such possibilities? He is to lay the foundation on a plan prescribed by others, and upon which others are to erect a structure of whose architectural design he knows nothing. He may be conscientious and enter upon his work with a royal enthusiasm, and yet piece-work, though it may not kill his conscience, will yet blunt the keen edge of its sensibility, and nip his enthusiasm at its very root. And the teachers in the grades above are no more happily situated.

We might, not inaptly, compare the work of the teacher of the first grade to that of the artist who should sketch in a single line of a picture that lies vague and dim in his mind. The teacher next above finds this line ready drawn, and having little notion of the design of his predecessor, upon a plan of his own adds another line; and thus the work goes on,—a new artist and a new design at every step. Is it any wonder that so many workers, some of them true artists, others scarcely artisans, should produce a picture slightly "out" both in form and color?

But it is not in instruction alone that a piece-work scheme of education exhibits its defects most obtrusively. The wiser we become (if we may be allowed to expand the foregoing idea) the more highly do we

estimate the influence of the teacher's personality, and the more are we inclined to subordinate all external forces, such as methods of teaching, school management, text-books, apparatus, etc., to that personality. The divine heat which the pupil gains from the teacher who has (to quote Carlyle again) a live coal in his own bosom, far transcends in value all other gains. But such an influence cannot be permanently established in a day; the heat from the live coal cannot suddenly kindle the pupil's nature into a blaze. If the teacher is, in any true sense, to form and inspire the pupil, he must be given the element of time for the performance of the work. This our graded schools, as at present conducted, do not do.

In what way, then, can the management of these schools be so changed that pupils and teachers may remain longer together? In the schools of all our cities and large towns, and in some of the smaller towns, there is taught in the same building more than one room of children of the same grade. Why then should not the teacher follow up his pupils from grade to grade, until it becomes necessary, by natural decrease of the numbers in a class, to merge two classes into one? This in large schools would not occur until the close of the fifth year of school-life, and in smaller ones, before the close of the third year. Whenever these limits should be reached, the teachers could return to the first grade and begin with a new set of pupils, and go forward again in the same way; while the teachers above, who received the consolidated classes from their hands, could carry these classes upward until another consolidation should send these teachers also back to the place of beginning. Thus, while the teach-

er's work would be the same in its general features, through a course more or less extended according to the circumstances of different schools, there would be in it a degree of that variety which is essential to the life of the mind. Were it possible to have pupils and teachers remain together through the whole elementary course it would, in my judgment, be still better for both. In advocating such a scheme, I have, of course, done it on the supposition that the teacher employed to carry it out is a good one; otherwise, the longer he and his pupils remain together the worse. But no good scheme of school-work can be successfully carried out by poor teachers.

If the plan I have attempted to set forth were adopted, another benefit would accrue: boards of education would be more careful in selecting their teachers, and less likely to retain in service those who have proved themselves to be utterly inefficient. Now, good-natured school officers retain in their schools, year after year, this class of teachers, on the plea to themselves that one year in a child's school-life cannot be a matter of great importance, and that the poor work of the poor teacher below can be easily corrected by the good teacher of the grade above. Everybody but the small politician, who obtrudes himself into our boards of education, knows how baseless such an idea is. The strength of the administration of any school system lies in getting poor teachers out of the schools and keeping them out. Any change of management, then, that will make it more difficult for the poor teacher to obtain a place or to hold a place already obtained, must inure to the benefit of the school system. If there is any truth in the assertion often made, that our public

schools educate to mediocrity and not to high talent, the chief cause will be found in the employment of mediocre teachers. I am sorry to say that a most pernicious custom is gaining a foothold in my own State, — I trust such is not the case anywhere in New England, — that of letting out schools to the lowest bidders. The schools, in their efforts to secure the permanent services of young men of ability and learning, already have to compete not only with the professions, but with the great railroad corporations, with banks, and with numerous other occupations; but let the practice of procuring teachers by auction become general in the lower schools, and it will gradually encroach upon the higher institutions of learning under public control, and it is not difficult to foresee the outcome. The schools will pass into the control of men without talent, education, or spirit, become the just subjects of contempt, and be attended by no pupils except the unfortunate children of parents too poor to afford anything better.

It may be objected to the plan of the upward movement of the teacher with his pupils in grade, that there are teachers who possess peculiar qualifications for the management and instruction of little children, and who are qualified neither by character nor education for any but the most elementary work. Admitting this to be true, the work of the first three or four years of school-life is just such elementary work. That a teacher could be eminently successful in the first year's work, and be unable to do good work in the next grade above, I am seriously inclined to question. Start a teacher of brilliant possibilities in the lowest primary grade, and keep her walking around its narrow tread-mill course for a few years, and I have no doubt she would find it very difficult

to do good work at once in any grade above. But it is the system which entails this narrowness and loss of mental vigor upon its victims that I would have abolished; for, as I have striven to make plain, that which weakens the teacher's grasp, as monotony of employment undoubtedly does, must react unfavorably upon his work wherever he may be placed.

But the narrowing tendencies of a too minute subdivision of labor is not confined to the elementary schools, for the learned professors in our colleges do not altogether escape its influences. I am of the opinion — and in this I am supported by the experience of more than one professor of standing — that an occasional change of subjects among teachers in all grades of schools below the university, would result in good to teacher and student, for whatever the former might lose in minute knowledge of his subject, would be more than made up to him in the freshness of feeling he would invest in his teaching, and in his ability to appreciate the difficulties the learner must encounter in his efforts to master any branch of knowledge. Were such a course adopted, “humdrum,” “old-fogy,” “saurian,” and numerous other titles designed to designate with emphasis a high degree of antiquity and general mustiness, would, I fancy, be less frequently applied by irreverent youth to instructors in higher institutions of learning. In this connection I call to mind a gentleman who was some years ago at the head of one of our leading Western colleges. He was a man of large body, large brain, and large heart. There was something Titanic in all he did. Even his writing looked as if it might have been done with a marline-spike in the fist of a giant. His mental activity and versatility of knowledge were im-

mense. He seemed to know as much of subjects lying outside of those in which he gave instruction, as the specialists themselves, and was equally an enthusiast in all. Students in doubt on religious or less serious subjects he met on fair grounds, neither understating nor belittling the objections he was expected to answer. And he did answer them from a fund of knowledge so vast and varied, and with a logic so keen and powerful, that there was no withstanding him. It is not difficult to imagine the influence a scholar so completely armed, and so valiant, would exert upon the whole mass of students in a college. The very atmosphere they breathed stimulated a divine hunger for wisdom. It is such men, exhibiting in themselves the power and grandeur of a comprehensive knowledge, who make learning attractive to every class of youth.

I conclude with a single word supplementary to what I have already said of the supreme place of the teacher in any scheme of education. The questions we now discuss in our educational meetings are the same that were discussed in such meetings fifty years ago, and the arguments used are very nearly the same. Possibly this is no reproach, for they are questions which touch great human interests as old as man himself. But should not the question of how teachers shall be prepared to perform their duties more efficiently receive more attention than it is doing? For I am convinced that if youth are to obtain an education round and complete, and that shall stimulate to high thinking, they will obtain it, not from text-books and apparatus, nor from libraries even, but from properly qualified teachers. A knowledge of the common-school branches is no sufficient equipment for the teacher, nor is a col-

legiate education with a normal-school training added. All these are essential, but more, much more, is yet wanting, — a mind constantly refreshed from the purest and deepest fountains of wisdom, whose sources lie higher than any school learning, and a spirit attuned to sweet harmony with the true, the beautiful, and the good, wherever found. In saying this, I am conscious of saying what you have heard many times, and that it will receive a ready assent. But do we act as though we really believed it? By what means then are teachers to be moulded into beings of such wondrous perfection? I confess I cannot answer. Yet I am not without hope that men mighty in our calling shall yet arise to point out the way. Our normal schools are unquestionably one means ; and when, more fully appreciated and sustained than they now are, they shall rise to the height of the great argument set for them, they will prove a mightier force still. Until then we shall be compelled to trust to libraries and the ordinary appliances of school instruction, to a steady adherence to correct principles, a manly strife to live up to them, and to the elevating forces constantly working in society itself, to do what may be done toward making teachers equal to their vocation.

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